GRUNDIG

SAT Service Manual

SeleXX PDR 5000 S DIG
GAG3142

NUR FÜR INTERNEN GEBRAUCH
FOR INTERNAL USE ONLY

Zusätzlich erforderliche Unterlagen für den Komplettservice
Additionally required Service Documents for the Complete Service

Service Manual

Sicherheit Safety

Materialnr./Part No.
720108000000

Grundig Service

Hotline Deutschland...
...Mo.-Fr. 8.00-18.00 Uhr

Technik:

TV	*0180/52318-41*
TV	*0180/52318-49*
SAT	*0180/52318-48*
VCR/LiveCam	*0180/52318-42*
HiFi/Audio	*0180/52318-43*
Car Audio	*0180/52318-44*
Telekommunikation	*0180/52318-45*
Fax:	*0180/52318-51*
Planatron (8.00-22.00 Uhr)	*0180/52318-99*

Ersatzteil-Verkauf: *Mo.-Fr. 8.00-19.00 Uhr*

Telefon:	*0180/52318-40*
Fax:	*0180/52318-50*

Änderungen vorbehalten/Subject to alteration
E-BS37 0101
http://www.grundig.com

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Materialnummer 720108000000, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!

The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 720108000000, as well as the respective national deviations.

(D)

Inhaltsverzeichnis

(GB)

Table of Contents

Allgemeiner Teil

Messgeräte / Messmittel

Regeltrenntrafo	Oszilloskop
Digitalmultimeter	Frequenzzähler

Beachten Sie bitte das Grundig Messtechnik-Programm, das Sie unter folgender Adresse erhalten:

General Section

Test Equipment / Jigs

Variable isolating transformer	Oscilloscope
Digital multimeter	Frequency counter

Please note the Grundig Catalog "Test and Measuring Equipment" obtainable from:

Grundig AG
Geschäftsbereich Instruments
Test- und Mess-Systeme
Würzburger Str. 150, D-90766 Fürth
Tel.: 0911 / 703-4540; Fax: 0911 / 703-4130
eMail: instruments@grundig.com
Internet: http://www.grundig-instruments.de

Service Hinweise

Vor Öffnen des Gerätes Netzstecker ziehen!

Bitte beachten Sie vor Beginn der Reparatur die reduzierte Ersatzteilliste.

Die Festplatte ist speziell formatiert. Tauschen Sie bei Bedarf die Festplatte nur durch das orginal GRUNDIG-Ersatzteil.
Nach Austausch der Festplatte **muss** der Testmode gestartet werden, damit das Gerät die Festplatte erkennt.

Service Instructions

Disconnect the mains plug before opening the set!

Before starting the repair pay attention of the reduced spare parts list.

The harddisk is especially formatted. If necessary please use only the original GRUNDIG spare part for a change.
After a change of the harddisk the testmode must be started, so that the set can recognize the harddisk.

Technische Daten

TV-Programme ..... 4000 und mehr
Empfangsbereich ..... 950 – 2150MHz
Eingangspegel ..... 44 – 83dBµV
Eingangsimpedanz 75Ω
LNC-Versorgung 14/18V; 400mA
Local-Oszillator GHz ..... Frei wählbar
Schaltsignale 0/22kHz
DiSEqC 1.0
Display ..... 1 Multi-Colour-LED (stand-by, on, record)
OSD ..... Anzeige, Programmierfunktion
Sprachen OSD ..... Deutsch, Englisch
Sendersuchlauf ..... Manuell oder über Download via Satellit
Videotext ..... ja
Modulation ..... QPSK
Symbolrate MS/sec ..... 2 – 30 MCPC
Bildformateinstellung ..... 4:3, 16:9, letterbox conversion
ECG (Electronic Content Guide) ..... 28 Tage im Voraus, > 35 Sender, täglich aktualisiert über Download via Satellit
Festplatte 20GB
Downloadfunktionen über Satellit ..... ECG-Daten, Software, Senderdaten

MPEG-Decodierung

MPEG 2 ..... Main Level / Main Profile
Video ..... 720 pixels x 576 lines x 25 frame/sec
Audio ..... MPEG 2 Layer 1+2, 16/22,05/24/32/44,1/48 kHz

Prozessor

CPU ..... Bit 32
Speicher ..... 8 Mbyte SDRAM, 20 GB Festplatte

Wiedergabefunktionen

Bildsuchlauf ..... vorwärts/rückwärts, Geschwindigkeit veränderbar über Fernbedienung
Standbild ..... Ja
Zeitlupe ..... Ja, Geschwindigkeit veränderbar über Fernbedienung
Instant Replay 7sec
Time-Shift ..... 20 – 60min
Aufnahmesteuerung ..... Über ECG, manuelle Aufnahme, Sofortaufnahme

Anschlüsse

SAT-ZF-Eingang ..... 1 F-Connector-Buchse (75 Ohm)
SAT-ZF-Durchschleifausgang ..... nicht aktiv
TV, AUX (nur Ausgang) ..... 2x EURO-AV
S-VHS-Ausgang ..... Hosiden
Datenschnittstelle ..... RS 232
Video-Ausgang ..... 1x Cinch-Buchse
Audio-Ausgang ..... 2x Cinch-Buchse
Digital-Audio-Ausgang ..... optisch
Infrarot-Fernbedienung ..... TelePilot 777 DR

Netzteil

Netzspannung, ... 47– 63 Hz, 220 – 240V
Leistungsaufnahme max. / Standby ca. ..... < 30W / < 2W
Gewicht ca. 4,5kg
Abmessungen ca. (B x H x T) ..... 36cm x 6,8cm x 26cm

Specifications

TV Programmes ..... 4000 and more
Input frequency range ..... 950 – 2150MHz
Input level ..... 44 – 83dBµV
Input impedance 75Ω
LNC power supply 14/18V; 400mA
Local Oscillator GHz ..... free selectable
Switch-over signals 0/22kHz
DiSEqC 1.0
Display ..... 1 Multi-Colour-LED (stand-by, on, record)
OSD ..... Display, program funktion
OSD languages ..... German, English
Station search ..... manually or via download from satellite
Teletext ..... yes
Modulation ..... QPSK
Symbol rate MS/sec ..... 2 – 30 MCPC
Picture formats ..... 4:3, 16:9, letterbox conversion
ECG (Electronic Content Guide) ..... 28 days ahead, > 35 stations, daily updated via download from satellite
Harddisk 20GB
Download function via satellite ..... ECG Data, software, station data

MPEG Decoding

MPEG 2 ..... Main level / Main profile
Video ..... 720 pixels x 576 lines x 25 frame/sec
Audio ..... MPEG 2 Layer 1+2, 16/22,05/24/32/44,1/48 kHz

Processor

CPU ..... Bit 32
Memory ..... 8 Mbyte SDRAM, 20 GB harddisk

Playback funktions

Picture search ..... forward/backward, speed variable via remote control
Freece frame ..... yes
Slow motion ..... yes, speed variable via remote control
Instant replay 7sec
Time-shift ..... 20 – 60min
Record control ..... via ECG, manual record, one touch recording

Connections

SAT IF input ..... 1 F-connector socket (75 Ohm)
SAT IF bridging output ..... inactive
TV, AUX (only output) ..... 2x EURO-AV
S-VHS output ..... Hosiden
Data interface ..... RS 232
Video output ..... 1x cinch socket
Audio output ..... 2x cinch socket
Digital audio output ..... optical
Remote control ..... TelePilot 777 DR

Mains unit

Mains voltage, ... 47– 63 Hz, 220 – 240V
Power consumption max. / standby ca. ..... < 30W / < 2W
Weight ca. 4,5kg
Dimensions ca. (W x H x D) ..... 36cm x 6,8cm x 26cm

Ausbauhinweise

1. Frontblende
- 3 Schrauben Ⓐ (Fig.1) herausschrauben.
- Frontblende abziehen.

2. Gehäuseoberteil
- Frontblend abnehmen (Punkt 1).
- 6 Schrauben Ⓑ (Fig.1,2) herausschrauben.
- Gehäuseoberteil abnehmen.

3. Netzteil
- Gehäuseoberteil abnehmen (Punkt 2).
- 4 Schrauben Ⓒ (Fig.1) herausschrauben.
- Steckverbindungen bei Bedarf abziehen.

4. Festplatte
- Gehäuseoberteil abnehmen (Punkt 2).
- 4 Schrauben Ⓓ (Fig.4) herausschrauben.
- Steckverbindungen bei Bedarf abziehen.

5. Hauptplatte
- Gehäuseoberteil abnehmen (Punkt 2).
- 3 Schrauben Ⓔ (Fig.2,3) herausschrauben.
- Festplattenhalter herausnehmen.
- Abdeckung des Digitalausgangs Ⓕ (Fig.2) abziehen.
- 6 Schrauben Ⓖ (Fig.5) herausschrauben.
- Schraube Ⓗ (Fig.2) herausschrauben.
- 2 Sub-D-Stecker-Schrauben Ⓘ (Fig.2) herausschrauben.
- 2 Sechskantmuttern Ⓚ (Fig.2) herausschrauben.

Disassembly Instructions

1. Front Cover
- Undo 3 screws Ⓐ (Fig.1).
- Pull the front cover to the front.

2. Cabinet Top
- Remove the front cover (para 1).
- Undo 6 screws Ⓑ (Fig.1,2).
- Remove the cabinet top.

3. Mains Unit
- Remove the cabinet top (para 2).
- Undo 4 screws Ⓒ (Fig.1).
- If necessary undo the connectors.

4. Hard Disk Drive
- Remove the cabinet top (para 2).
- Undo 4 screws Ⓓ (Fig.4).
- If necessary undo the connectors.

5. Main Board
- Remove the cabinet top (para 2).
- Undo 3 screws Ⓔ (Fig.2,3).
- Remove the hard disk drive holder.
- Pull up the cover of the digital output Ⓕ (Fig.2).
- Undo 6 screws Ⓖ (Fig.5).
- Undo screw Ⓗ (Fig.2).
- Undo 2 Sub-D connector screws Ⓘ (Fig.2).
- Undo 2 hexagonal nuts Ⓚ (Fig.2).

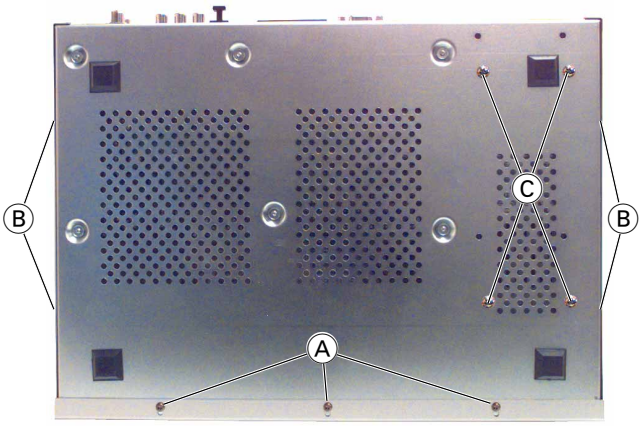


Fig. 1

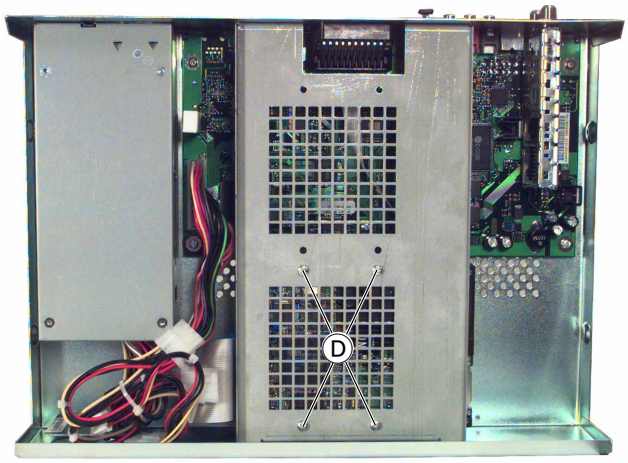


Fig. 4

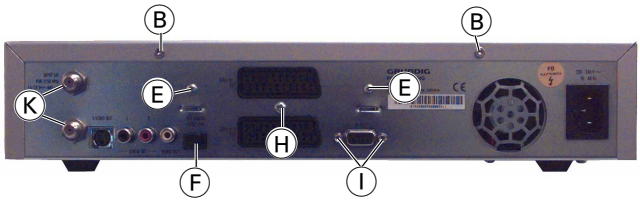


Fig. 2

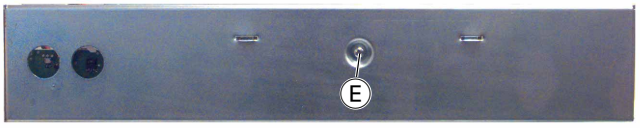


Fig. 3

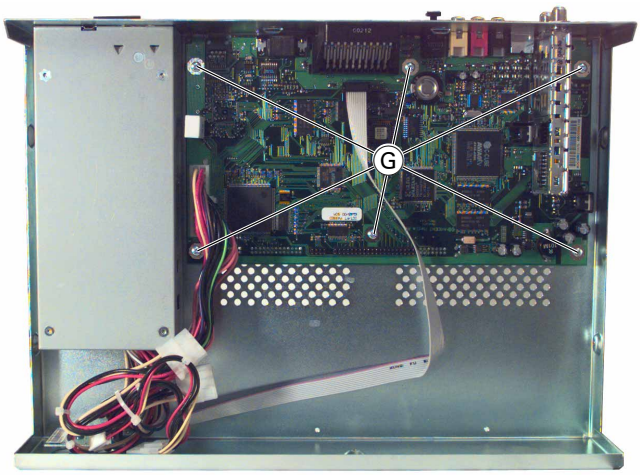


Fig. 5

Testmode

1. SeleXX Endtest V1.2

Für den Endtest der MediaTV ist das Gerät vollständig, d.h. mit Verbindung zur seriellen Schnittstelle, dem SAT-Anschluss, sowie der Netzspannung, etc. aufzubauen. Mit dem PC können die Statusmeldungen und Informationen während der Ausführung der Tests erfasst werden. Um diese Daten lesen zu können, ist auf dem PC eine entsprechende Software, z.B. Hyperterminal (Windows 95/98), zu verwenden.

Einstellungen für die Datenübertragung:

Bits/s:	19200
Datenbits:	8
Parität:	keine
Stopbits:	1
Protokoll:	kein

Bestandteil des Endtestes ist ein Komponententest der mediaTV und ein Dauertest bei gestartetem Betriebssystem. Beide Varianten werden in den folgenden Abschnitten beschrieben.

1.1 Der Komponententest

Nach Einschalten der Spannungsversorgung kann der Komponententest auf zwei verschiedene Arten durchgeführt werden. Zum einen per Fernbedienung (End-User) und zum anderen per V24-Kommando (Produktion).

1.1.1 Testdurchführung per Fernbedienung

Der Komponententest per Fernbedienung wird gestartet, indem beim Bootvorgang die Taste 9 der Fernbedienung gedrückt gehalten wird. Der Start der Testserie wird durch ein kurzzeitiges Blinken der LED angezeigt und läuft, bis auf den Test des IR-Empfängers und der Fernbedienung, automatisch ab. Beim Komponententest werden die einzelnen Testfunktionen (siehe 1.1.3) einmalig und sequentiell abgearbeitet.

1.1.2 Testdurchführung mit einem PC

Wird der Komponententest mit einem Testautomaten durchgeführt, so können die einzelnen Tests (siehe 1.1.3) in beliebiger Reihenfolge und beliebig oft ausgeführt werden. Auf diese Weise können Tests übersprungen werden, um die Ausführungszeit aller Tests zu minimieren, oder aber Tests mehrmalig ausgeführt werden, falls sich Probleme bei der Testdurchführung ergeben haben.

Der Endtest kann im Kommandomodus betrieben werden, wenn an der V24-Schnittstelle die Signale CTS (Pin 7) und RTS (Pin 8) verbunden sind. Wurde die Brücke beim Booten richtig erkannt, so wird das Kommando-Prompt “#R:” angezeigt. An dieser Stelle kann mit dem Kommando “START” in den kommandogesteuerten Komponententest gewechselt werden, oder mit “YP§){OB [*param*]” (param=Senderparameter z.B. ARD) der Dauertest, bei gestartetem Betriebssystem, ausgeführt werden (siehe Tabelle 1). Mit “QUIT” lässt sich der Bootvorgang normal fortsetzen.

Kommando im Brückenbetrieb	Aktion
START	Start des V24-Komponententests
YP§){OB [*param*]	Starten des Betriebssystemtests mit *param* = Senderparameter z.B. ARD
QUIT	Fortsetzung des Bootvorgangs

Tabelle 1: Kommandos nach V24-Brückenerkennung

Wurde der kommandogesteuerte Komponententest ausgewählt, so können verschiedene Testfunktionen (siehe Tabelle 2) ausgeführt werden, sobald das Prompt “#R:” erscheint. Um die erzielten Ergebnisse mit einem Testautomaten auswerten zu können, sind die Zeilen mit dem resultierenden Ergebnis mit dem Schlüsselwort “#RSLT:” gekennzeichnet. Wurde ein Test mit einem Fehler beendet, so wird die Fehlerausgabe mit dem Schlüsselwort “#F:” eingeleitet. Werden durch die Testfunktionen Versionsangaben ausgegeben, so befindet sich am Anfang der Zeile das Kürzel “#V:”. Verlassen wird der Komponententest mit dem Kommando “QUIT”.

Kommando	Testfunktion
AVIASDRAM	AVIA Speichertest
AVIAHOST	AVIA Registertest
AVIATRSP	AVIA Testbildschirm und MPEG-Film
RTCREG	RTC Registertest
RTCALARM	RTC Alarm A&B
RTCTIMESET	RTC Time Set&Get
TUNER	TUNER Test mit fester Frequenz

Testmode

1. SeleXX Final Test V1.2

For the final test of the MediaTV, the set is to be set up completely, that is, with the connection to the serial interface, the SAT connection, the mains voltage supply, etc. The PC enables to record the status messages and information during the execution of the tests. In order to be able to read this data, an appropriate software, e.g. Hyperterminal (Windows 95/98), must be installed on the PC.

Settings for the data transmission:

Bits/s:	19200
Data bits:	8
Parity:	none
Stop bits:	1
Protocol:	none

Part of the final test is a component test of the MediaTV and a continuous test with the operating system running. Both variants are described in the following paragraphs.

1.1 The Component Test

After switching on the power supply, it is possible to carry out the component test in two different ways. One test method is carried out with the remote control (end user), while the other test method is carried out via the V24 command (production).

1.1.1 Test with the Remote control

The component test with the remote control is started while holding down the button 9 on the remote control during booting. Starting of the test series is indicated by a brief flashing of the LED and runs automatically with the exception of the test of the IR receiver and of the remote control. During the component test, the individual test functions (see 1.1.3) are carried out once in a sequential order.

1.1.2 Test Execution with an PC

If the component test is carried out with an automatic testing equipment, the individual tests (see 1.1.3) can be carried out in random order and as often as desired. In this way, it is possible to skip certain tests in order to minimize the execution time of all tests, or to carry out certain tests several times if there should be problems during the execution of the tests.

The final test can be carried out in command mode if the CTS (Pin 7) and RTS (PIN 8) signals are connected to the V24 interface. If the bridge has correctly been recognized during booting, the command prompt “#R:” is indicated. At this point, it is possible to go to the command-controlled component test by entering the “START” command, or it is possible to carry out the continous test with running operating system by means of “YP§){OB [*param*]” (param=station parameter, e.g. ARD; see Table 1). Using the “QUIT” command, it is possible to continue booting in a normal way.

Command in bridge mode	Action
START	Start of the V24 component test
YP§){OB [*param*]	Start of the operating system test with *param* = station parameter, e.g. ARD
QUIT	Booting continuation

Table 1: Commands after bridge recognition.

If the command-controlled component test has been selected, various command-controlled component tests can be carried out (see Table 2) as soon as the “#R:” prompt appears. In order to be able to evaluate the obtained results with the help of an automatic testing equipment, the rows showing the results are marked with the “#RSLT:” code. If a test has been concluded with an error, the error output is startet with the “#F:” code. If version indications are output through the test function, the code “#V:” is to be found at the beginning of the row. Enter the “QUIT” command if you wish to exit the component test.

Command	Test function
AVIASDRAM	AVIA memory test
AVIAHOST	AVIA register test
AVIATRSP	AVIA test screen and MPEG film
RTCREG	RTC register test
RTCALARM	RTC alarm A&B
RTCTIMESET	RTC time Set&Get
TUNER	TUNER test with fixed frequency
XILINX	XILINX register and puffer test
TUNEXILINX	TUNER and XILINX test
IDEDATA	Indication of IDE data

XILINX	XILINX Register- und Puffertest
TUNEXILINX	TUNER und XILINX-Test
IDEDATA	Anzeige IDE-Daten
IDEREG	IDE Registertest
REMCTRL	Fernbedienungstest
GETCONF	Anzeige der Versionsangaben
SETPRNO [*param*]	Schreiben einer Integer Projekt-Nummer
GETPRNO	Lesen der Projekt-Nummer
QUIT	Ende des V24-Komponententests

Tabelle 2: Kommandos zur Ausführung von Testfunktionen

1.1.3 Inhalte des Komponententests

- **OSD** für Testsoftware
  Hiermit wird dem Benutzer signalisiert, dass der Komponententest durchgeführt wird. Der Benutzer erhält über das OSD die Information, welche Testfunktion aktuell ausgeführt wird und in welchem Zustand die Funktionen beendet wurden.

- **Hauptspeicher**
  In diesem Test werden die Register des Hauptspeichers mittels Lese- und Schreiboperationen getestet. Um das System bei Bedienung der Fernbedienung während dieses Test nicht zu beeinflussen, wird dieser Test sowohl bei der Testdurchführung mit der Fernbedienung als auch mit einem Testautomaten immer als erster Test durchgeführt. Da der Test nur einmalig durchgeführt wird, existiert auch kein Kommando für den Testautomaten (siehe Tabelle 2).

- **AVIA (MPEG-Decoder)**
  Vor Ausführung dieses Tests wird zunächst die Hardware und der AVIA-Chip neu Initialisiert. Im Anschluss daran wird ein Speichertest (SDRAM) des AVIA-Chips durchgeführt. Danach erfolgt ein Lese- und Schreibtest der Register des Hostinterfaces, sowie eine Überprüfung des Transportinterfaces. Der Test des Transportinterfaces erfolgt durch Schreibvorgänge, die wiederum durch Leseoperationen über das Hostinterface, aus dem Speicher des AVIA-Speichers, überprüft werden. Bei dem Test des Transportinterfaces wird zunächst für ca. 10 Sekunden ein Farbbalken-Testbild angezeigt. Danach wird eine Filmsequenz geladen und am Fernseher angezeigt. Wurde der Komponententest per Fernbedienung gestartet, so wird die Filmsequenz für 30 Sekunden angezeigt. Bei einer Testdurchführung mit einem Testautomaten (siehe 1.1.2) wird die Filmsequenz solange angezeigt, bis vom Testautomaten ein CR-Signal über die serielle Schnittstelle gesendet wurde.

- **RTC**
  In einem ersten Test der Real-Time-Clock werden Lese- und Schreiboperationen auf die RTC-Register per MBUS durchgeführt. Dabei werden die verschiedenen Zeit-, Datums- und Alarmregister auf Bitfehler getestet. Ein weiterer Test überprüft die Funktionalität der Uhrzeit, indem die Uhr zunächst auf eine definierte Zeit gesetzt wird. Nach einer zeitlichen Differenz, von z.B. einer Sekunde, erfolgt ein erneuter Zugriff auf die Uhr, wobei die fortgeschrittene Uhrzeit ausgelesen, und überprüft wird, ob zwischen den beiden lesenden Zugriffen die zeitliche Differenz ermittelt werden kann. Ein abschließender Test für die RTC sieht eine Überprüfung der Interrupts (Alarm-A und Alarm-B) vor. Dabei werden insbesondere die Interrupts zum Coldfire getestet.

- **IDE**
  Bei der an der IDE-Schnittstelle angeschlossenen Festplatte werden in diesem Test die Adress- und Datenleitungen überprüft.

- **TV-TUNER**
  Zunächst wird mittels Lese- und Schreiboperationen ein Registertest durchgeführt. Im Anschluss daran folgt ein TUNE-Funktionstest. Dieser Test wird sowohl mit und ohne DISEQC ausgeführt. Bei diesem Test wird geprüft, ob ein Sender (ARD – Das Erste) mit einer festen Frequenz innerhalb einer vorgegebenen Anzahl an Fehlversuchen (z.B. 5) eingestellt werden kann.

- **XILINX**
  In einem ersten Test wird ein Download des UCODE vom Baustein vorgenommen und dieser Code auf Vollständigkeit überprüft. Weitere Tests überprüfen die PID- und die Adress-Puffer.

- **TV-TUNER und XILINX**

IDEREG	IDE register test
REMCTRL	Remote control test
GETCONF	Version indication
SETPRNO [*param*]	Writing of an integer project number
GETPRNO	Reading of the project number
QUIT	End of the V24 component test

Table 2: Commands for carrying out the test functions.

1.1.3 Contents of the Component Tests

- **OSD** for test software
  This signals the user that the component test is running. The OSD provides the user with information about what test function is currently being carried out and in which state the functions have been ended.

- **Main Memory**
  With this test, the registers of the main memory are tested by means of read and write operations. To prevent affecting the system through operation of the remote control during the test, this test is always carried out as first test both when testing with the remote control and with an automatic testing equipment. As this test is carried out only once, there exists no command for the automatic testing equipment (see Table 2).

- **AVIA (MPEG Decoder)**
  Before carrying out this test, the hardware and the AVIA chip are at first newly initialized. Following this a memory test (SDRAM) of the AVIA chip is carried out. Following this a read and write test of the registers of the host interface as well as a check of the transport interface is performed. The test of the transport interface is effected by performing write operations which in turn are checked by read operations via the host interface from the memory of the AVIA memory. When testing the transport interface, first a colour bar test pattern is displayed for about 10 seconds. Following this a film sequence is loaded and displayed on the TV set. If the component test has been started via the remote control, the film sequence is displayed for about 30 seconds. When the test is carried out via an automatic testing equipment (see 1.1.2), the film sequence is displayed until a CR signal has been transmitted from the automatic testing equipment via the serial interface.

- **RTC**
  In a first test of the real time clock, read and write operations on the RTC registers are effected via the MBUS. In doing this, the various time, date and alarm registers are tested for bit errors. A further test checks the functionality of the clock time by setting the clock to a specific time. After a time period of, for example 1 second, the clock is accessed again and the advanced time is read out and checked to see whether a time shift can be noticed between the two readings. A final test of the RTC serves for checking the interrupt (alarm A and alarm B). With this test the interrupts to the coldfire are especially tested.

- **IDE**
  With this test, the address and data lines of the hard disk connected to the IDE interface are checked.

- **TV TUNER**
  First a register test is carried out by means of read and write operations. Following this a TUNE function test is carried out. This test is carried out both with and without DISEQC. This test checks wether a station (ARD – Das Erste) with a fixed frequency can be tuned to within a specified number of erroneous attempts (e.g. 5).

- **XILINX**
  In a first test a download of the UCODE from the module is carried out and the code is checked for completeness, Further tests check the PID and address buffers.

- **TV TUNER and XILINX**
  This function test comprises a TUNER test using the XILINX. In doing this, first a TUNE function test for a specified station (ARD – Das Erste) is carried out. If the station could be found, the received messages of the station are checked for their validity, that is the

Der Funktionstest beinhaltet einen Test des TUNERS unter Verwendung des XILINX. Dabei wird zunächst ein TUNE-Funktionstest für einen festen Sender (ARD – Das Erste) durchgeführt. Konnte der Sender gefunden werden, so werden die gelesenen Nachrichten des Senders auf ihre Gültigkeit, d.h. Reihenfolge der Nachrichtenpakete und Einhaltung der Paketlänge, überprüft.

- **IR-Empfänger und Fernbedienung**
  Durch Interaktion mit dem Benutzer können in diesem Test, die Funktionen der Fernbedienung und des Infrarotempfängers getestet werden. Dabei werden durch das Testprogramm nacheinander die einzelnen Tasten der Fernbedienung vorgegeben, die per Fernbedienung zu betätigen sind.

- **Anzeige von Versionsdaten**
  Wird der Endtest im Kommandomodus (siehe 1.1.2) durchgeführt, so steht zusätzlich eine Funktion zur Verfügung (siehe Tabelle 2), in der Versionsdaten ausgelesen und angezeigt werden können. Wird der Endtest zum ersten Mal durchgeführt, so ist diese Funktion auf jeden Fall aufzurufen, da hier eine Verschlüsselung der Festplatten-Seriennummer vorgenommen wird. Wurde “GETCONF” beim Endtest nicht ausgeführt, so kann das Gerät später nicht gestartet werden.

Die erzielten Ergebnisse der einzelnen Tests und Informationen zu den Tests werden in beiden Testvarianten über die serielle Schnittstelle ausgegeben. Im kommandogesteuerten Test lassen sich neben den Ausgaben der Ergebnisse zusätzlich die Seriennummern der eingebauten Geräte übertragen. Auf diese Weise können die einzelnen Komponenten einer MediaTV registriert werden.

2. Der Dauertest

Der Dauertest ist mit einem Fernbedienungsautomaten durchzuführen. In dem Test sollen bei laufendem Betriebssystem beispielsweise die Menüfunktionen, sowie z.B. PLAY, RECORD, TIMESHIFT, etc. getestet werden. Zur Kontrolle über die empfangenen und durchgeführten Aktionen werden entsprechende Informationen über die serielle Schnittstelle zur Auswertung ausgegeben.

sequence of the message packages and the compliance with the packet length are checked.

- **IR Receiver and Remote Control**
  Through interaction with the user, this test enables the check of the remote control functions and of the infrared receiver. In doing this, the test programme determines one after the other the individual buttons on the remote control which are to be actuated for remote control.

- **Indication of the Version Data**
  If the final test is carried out in the command mode(see 1.1.2), an additional function is available (see Table 2) which allows you to read out and indicate the version data. If the final test is effected for the first time, this function is to be callled up in any case, as it carries out an encoding of the serial number of the hard disk. If “GETCONF” has not been executed during the final test, it is not possible to start the set at a later date.

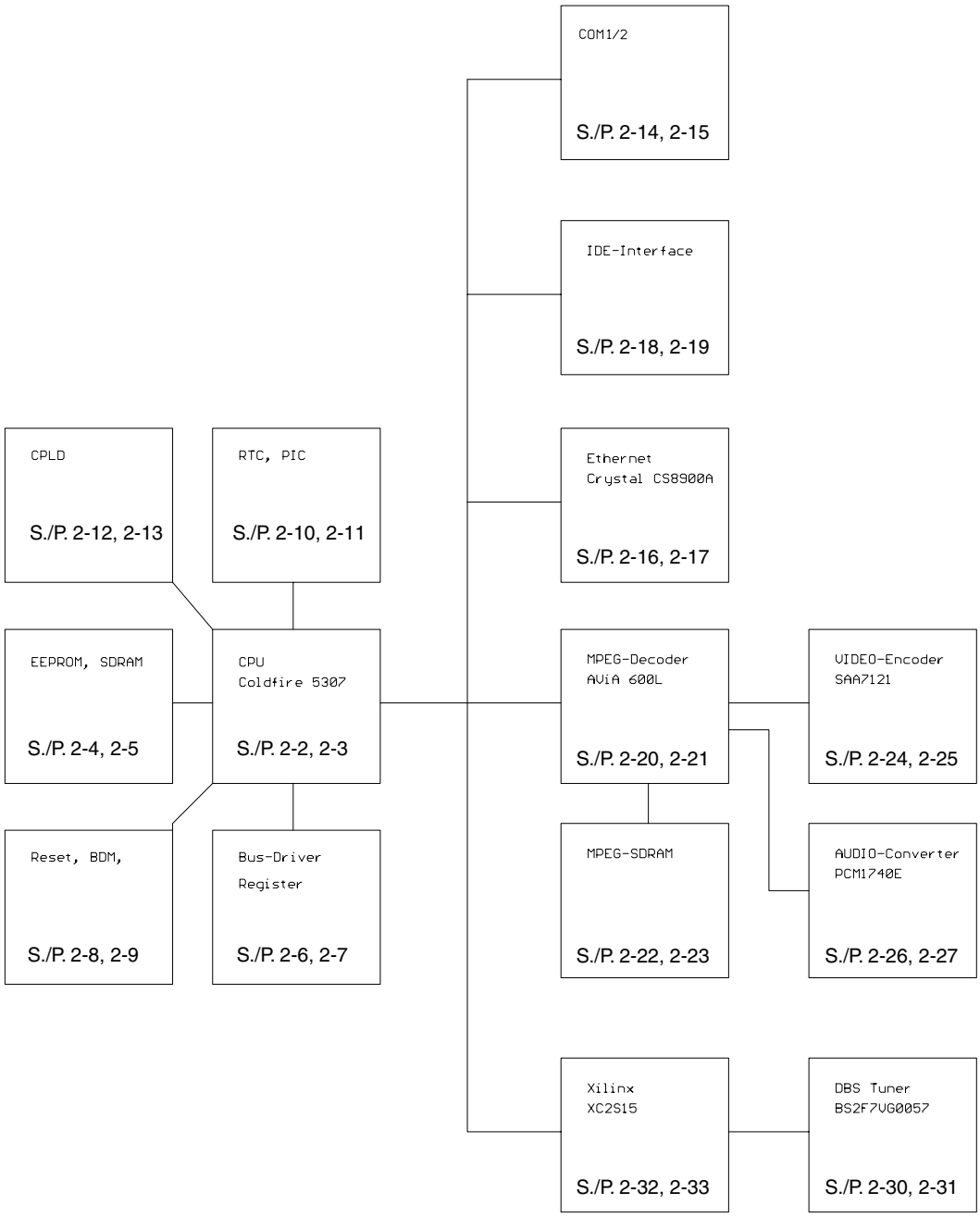
The achieved results of the individual tests and information about the tests are read out for both test variants via the serial interface. For the command-controlled test, the serial numbers of the built-in devices can be transferred in addition to the test results. In this way it is possible to register the individual components of a MediaTV.

2. The Continuous Test

The continuous test is to be carried out with an automatic remote control equipment. With this test, the menu functions as well as PLAY, RECORD, TIMESHIFT, etc., for example, are to be tested with the running operating system. For checking the received and executed actions, corresponding information is output via the serial interface for evaluation.

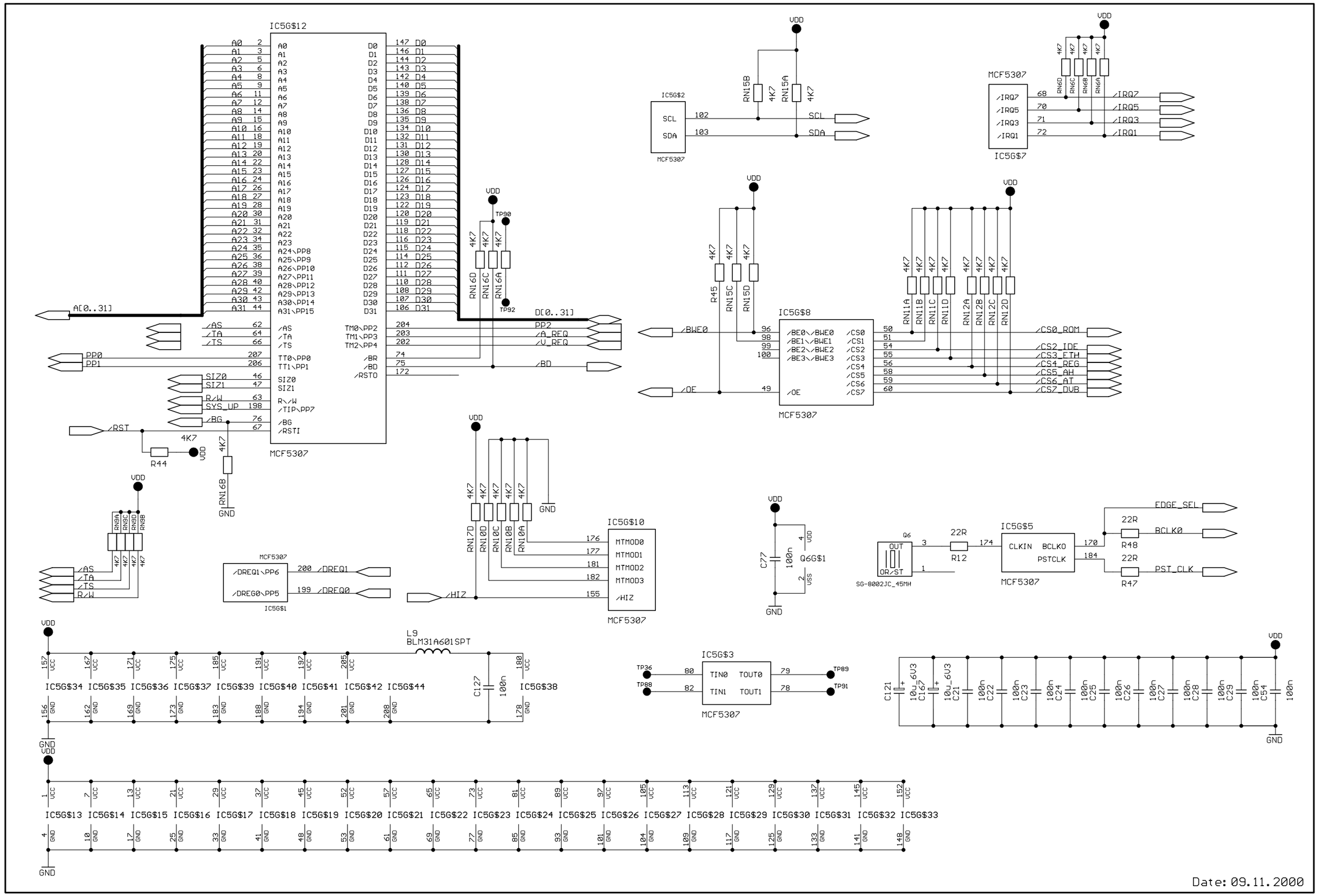
Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs

Übersicht / Overview



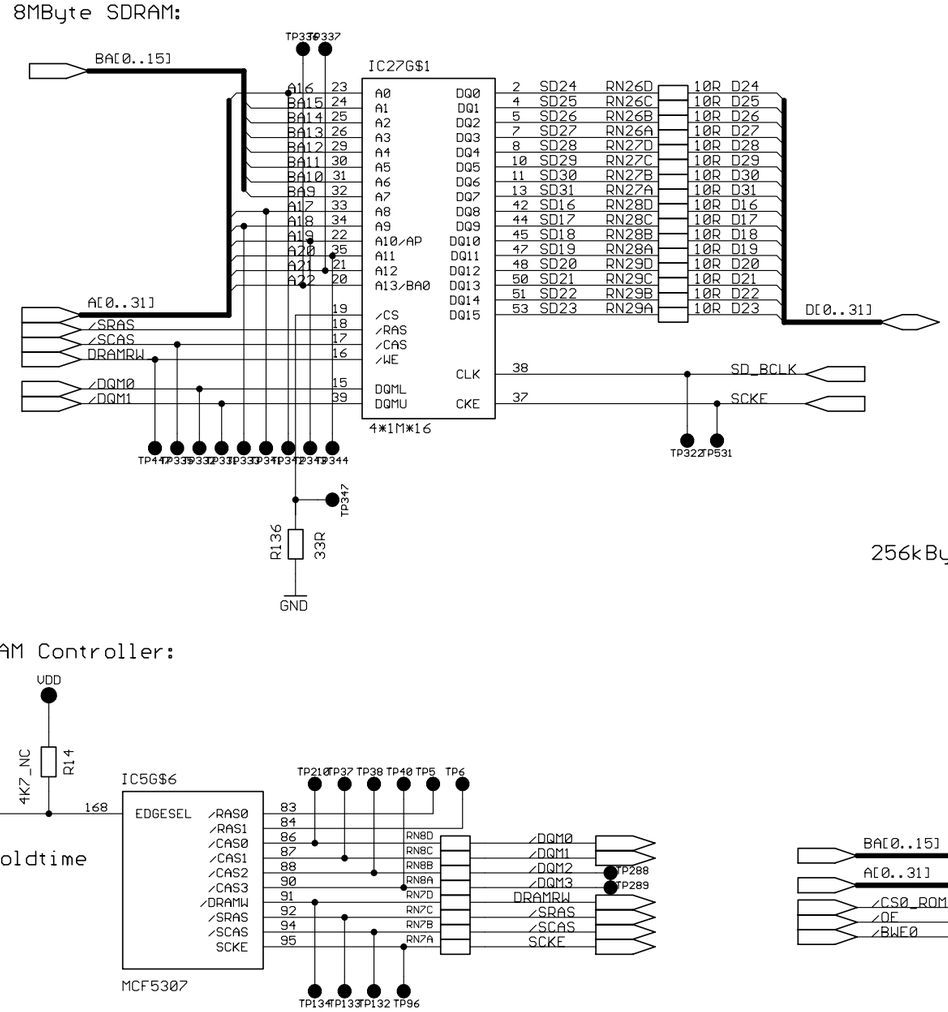
SeleXX PDR 5000 S DIG
Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs

CPU



GRUNDIG Service

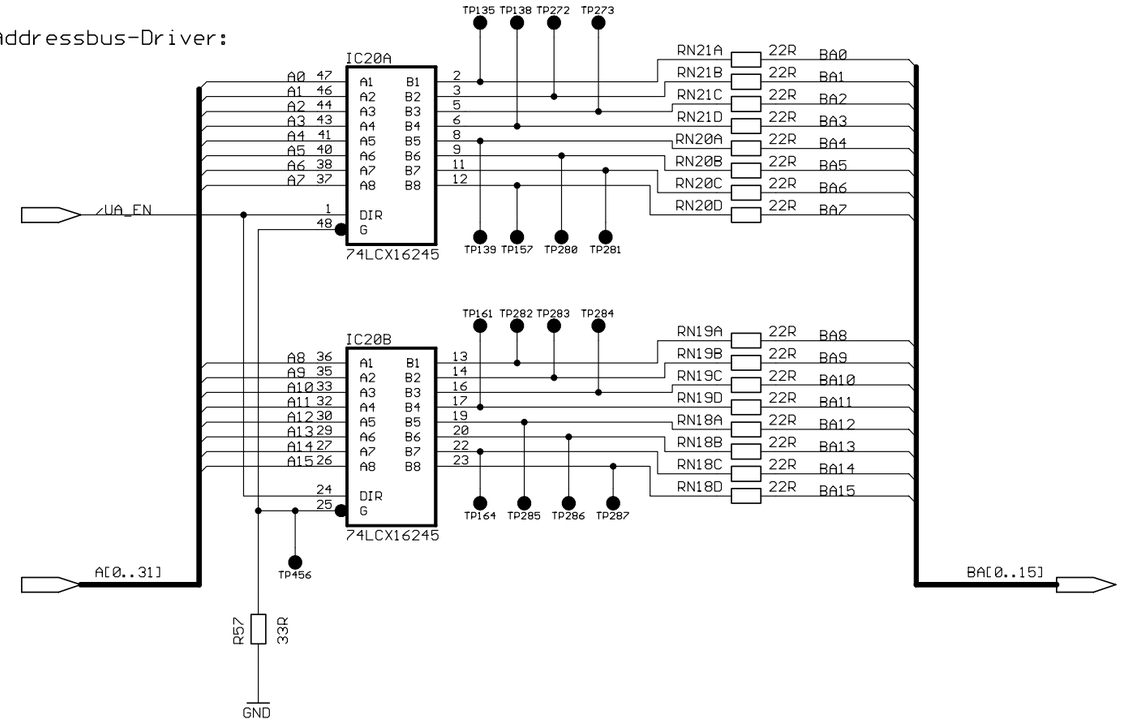
ROM, SDRAM


8MByte SDRAM:
BA[0..15]
A[0..31]
/SRAS
/SCAS
DRAMRW
/DQM0
/DQM1
IC27G$1
4*1M*16
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10/AP A11 A12 A13/BA0
/CS /RAS /CAS /WE DQML DQMU CLK CKE
DQ0 DQ1 DQ2 DQ3 DQ4 DQ5 DQ6 DQ7 DQ8 DQ9 DQ10 DQ11 DQ12 DQ13 DQ14 DQ15
SD_BCLK
SCKE
D[0..31]
R136 33R
GND
Coldfire SDRAM Controller:
VDD
R14 4K7_NC
EDGE_SEL
Hardware LOOP!!!
Provide Output Holdtime
IC5G$6
MCF5307
EDGESEL
/RAS0 /RAS1 /CAS0 /CAS1 /CAS2 /CAS3 /DRAMW /SRAS /SCAS SCKE
RN8D RN8C RN8B RN8A RN7D RN7C RN7B RN7A
/DQM0 /DQM1 /DQM2 /DQM3 DRAMRW /SRAS /SCAS SCKE
256kByte EEPROM:
IC21
256K*8
BA0 BA1 BA2 BA3 BA4 BA5 BA6 BA7 BA8 BA9 BA10 BA11 BA12 BA13 BA14 BA15 A16 A17
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17
/CS0_ROM /OE /BWE0
CE\ OE\ WE\
D0 D1 D2 D3 D4 D5 D6 D7
D[0..31]
IC21G$2
C92 10u_6V3
C122 10u_6V3
C93 100n
C94 100n
C95 100n
C96 100n
C97 100n
C98 100n
C118 100n
R137 0R
R56 0R_NC
VCC
Date: 09.11.2000

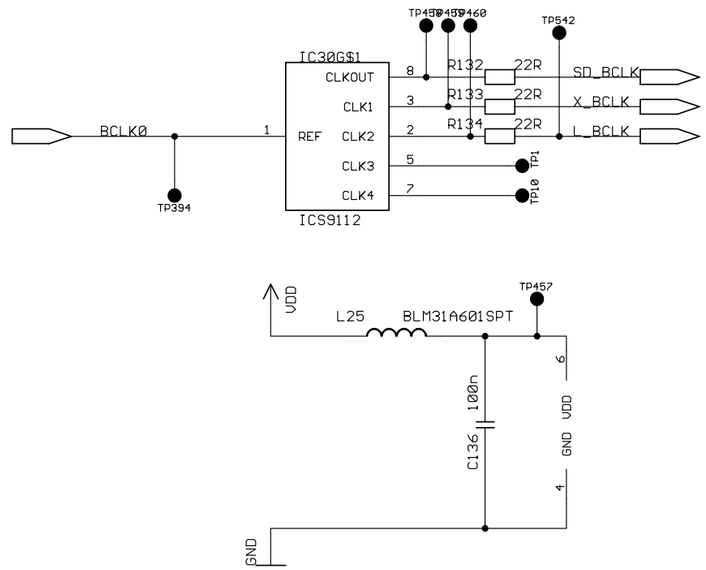
SeleXX PDR 5000 S DIG Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs

Busdriver, Register

Addressbus-Driver:



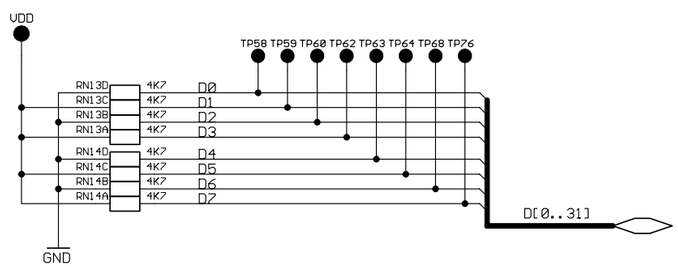
Busclock-Driver:



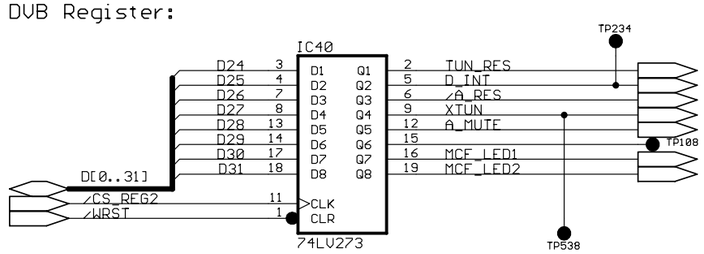
RESET/Initialization:

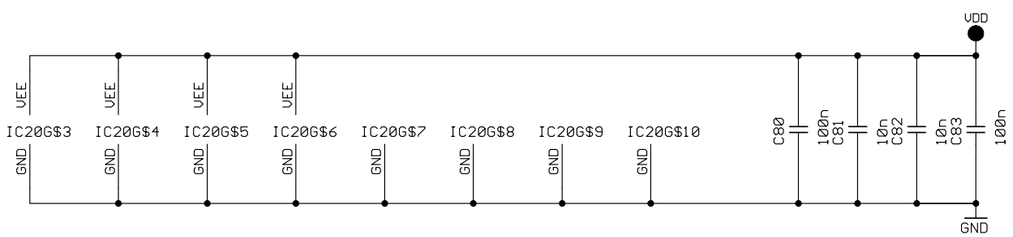
D0: Reset DIV0 1/2
D1: Reset DIV1
D2: Reset FRQ0 39-45MHz
D3: Reset FRQ1

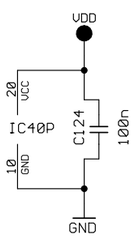
D4: Addr Conf PP sel
D5: CS_CONF0 8-bit port
D6: CS_CONF1
D7: CS_CONF2 15 wait



DVB Register:







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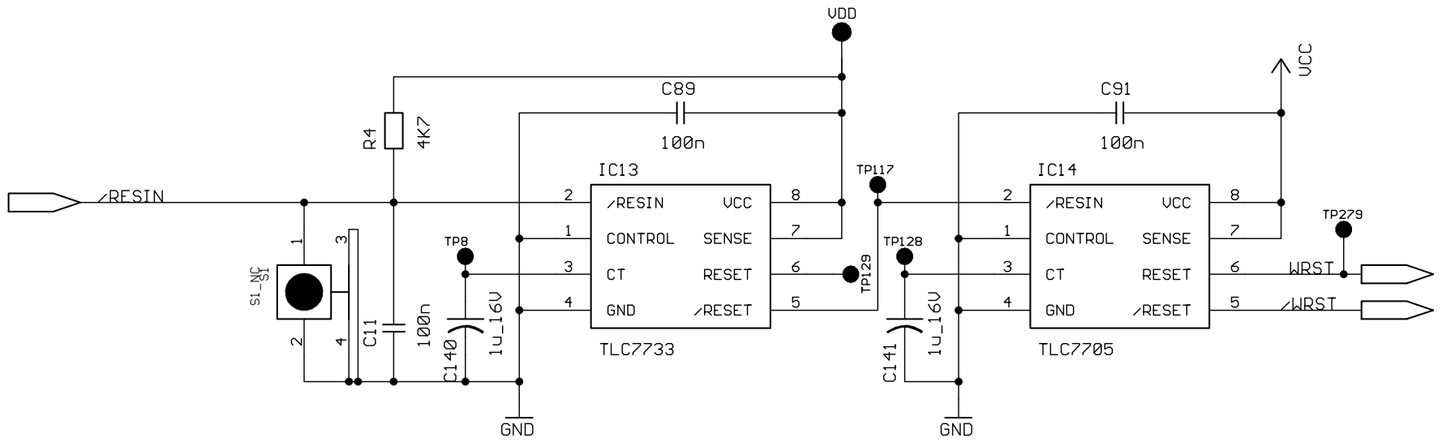
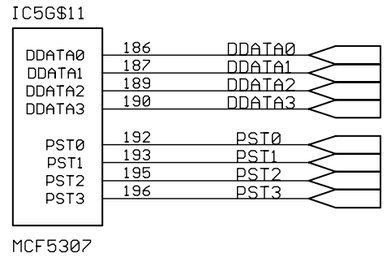
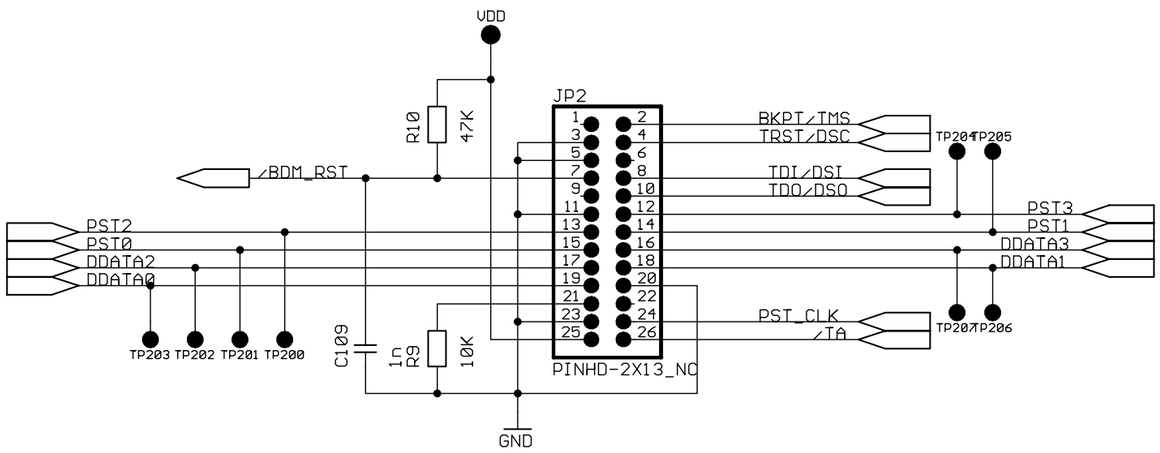
Reset, BDM

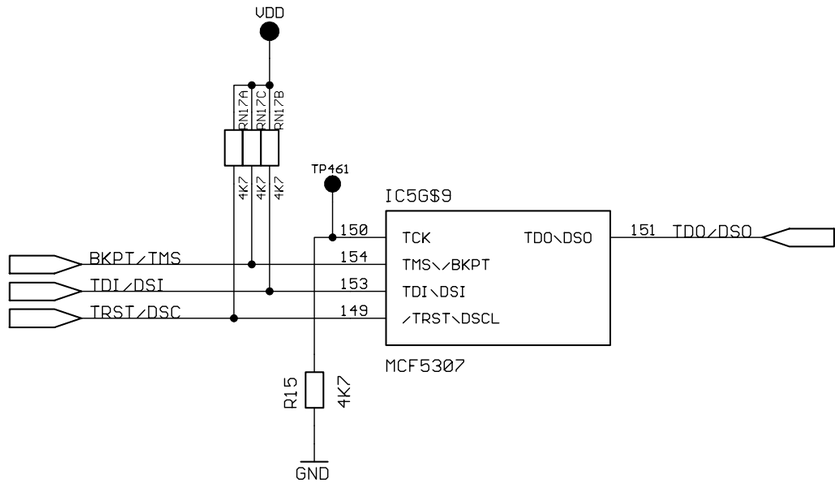
Reset:





BDM-Interface:





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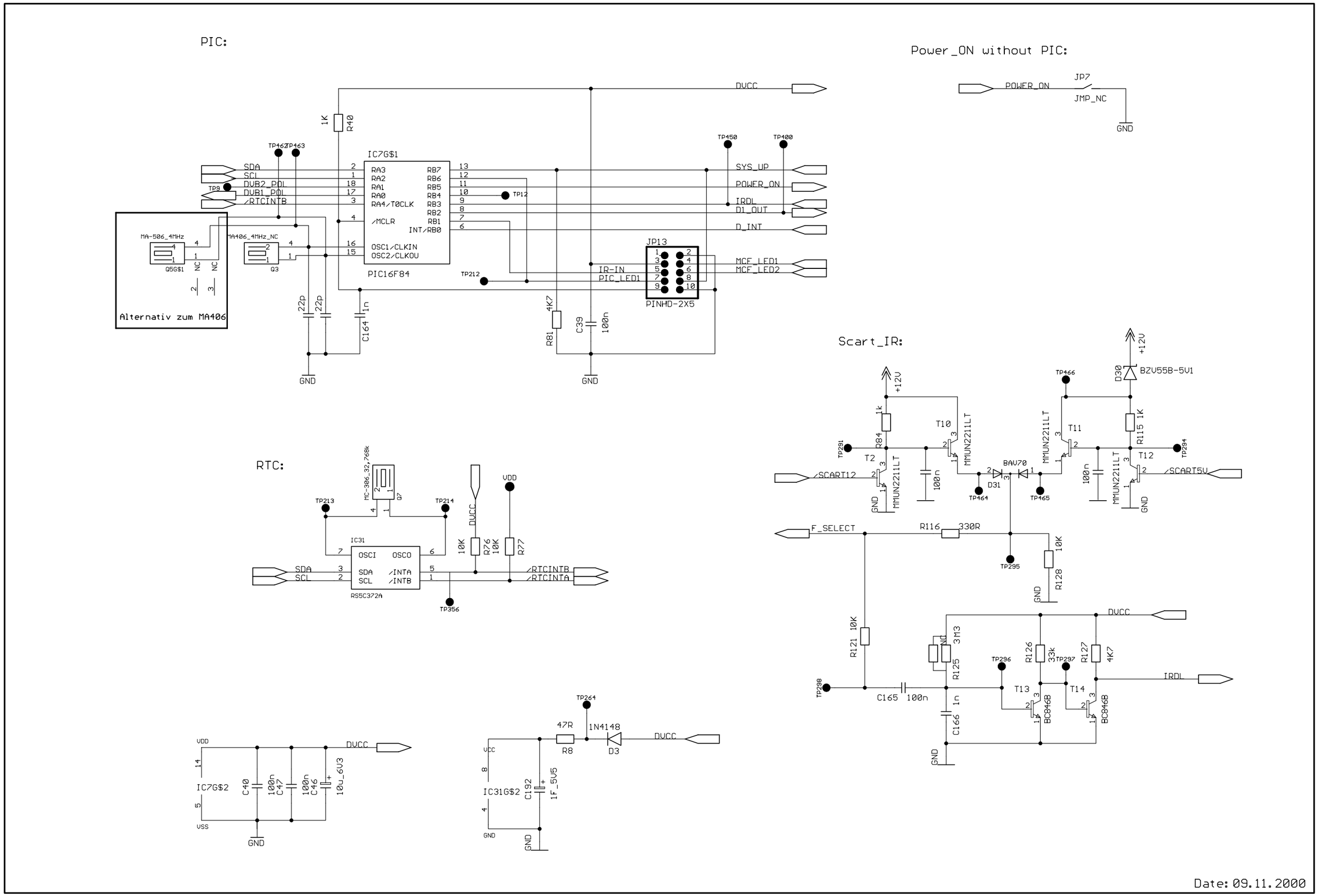
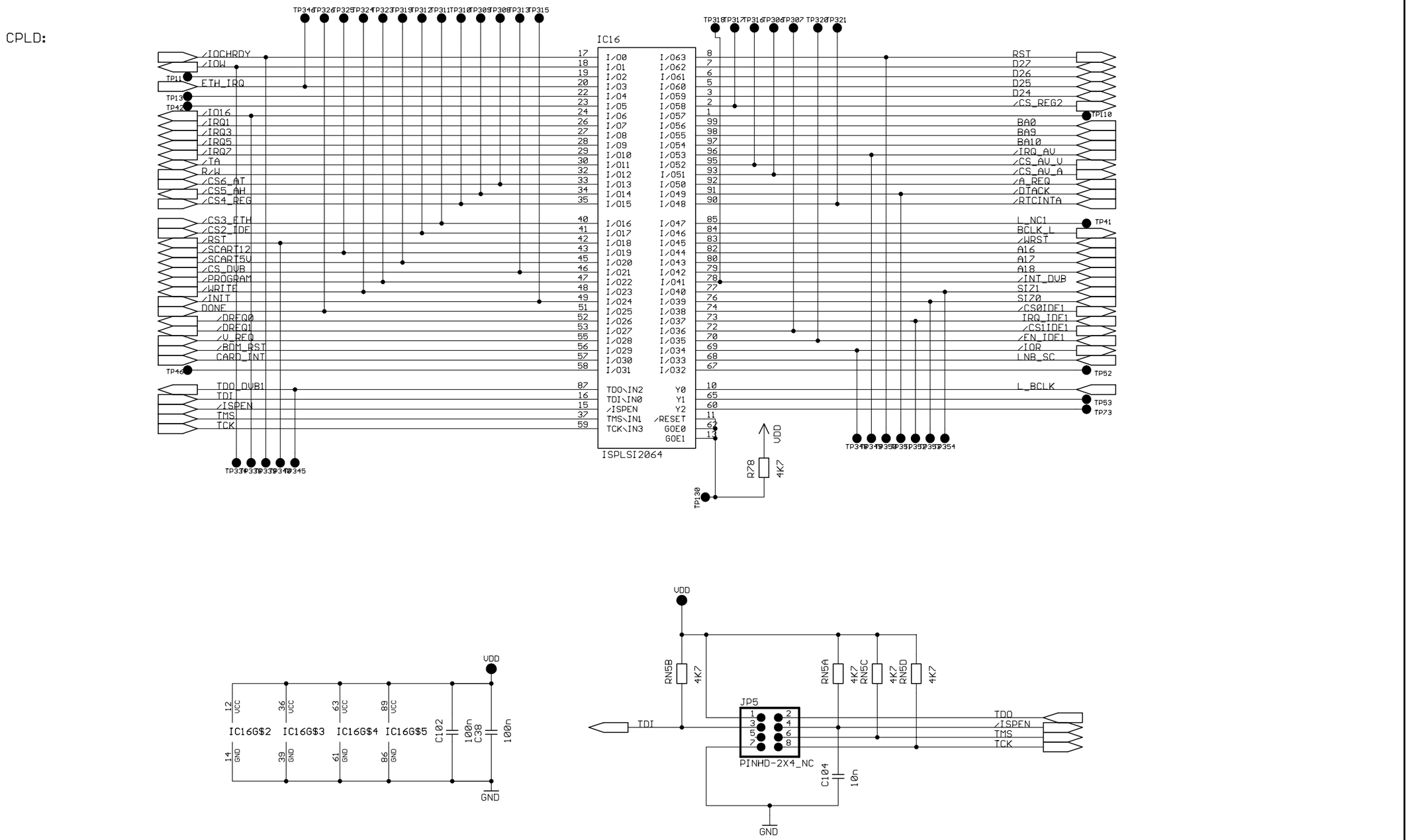
RTC, PIC



CPLD

CPLD:



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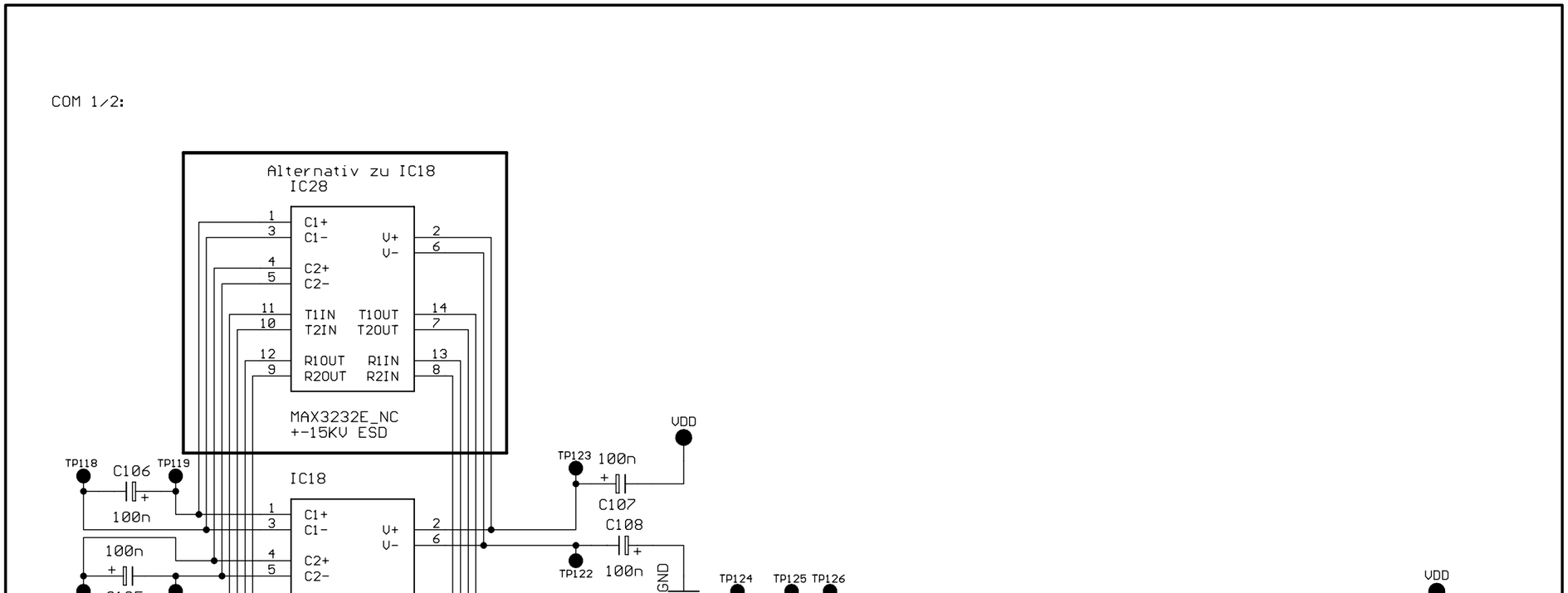
COM1/2



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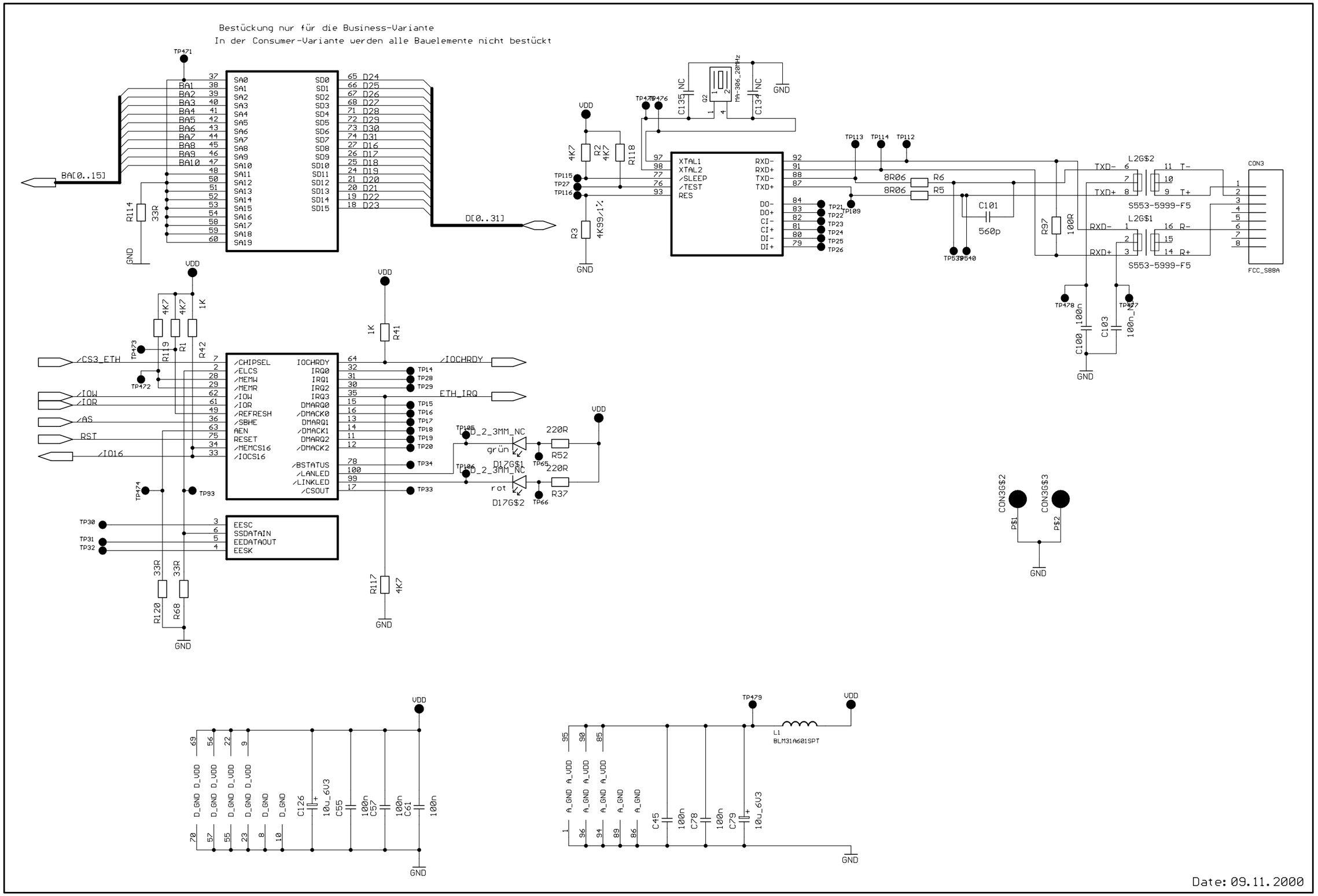
Ethernet (Option)



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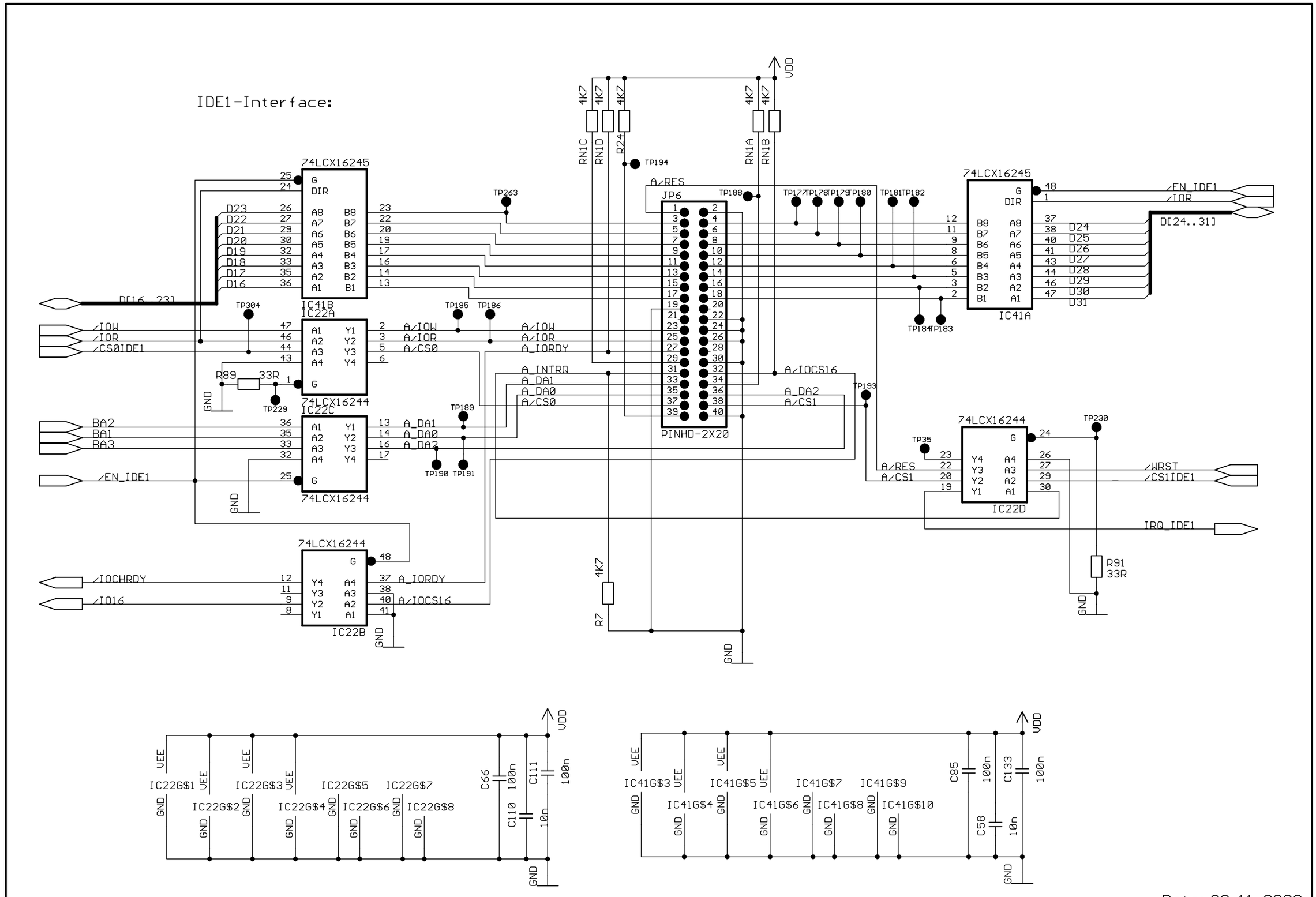
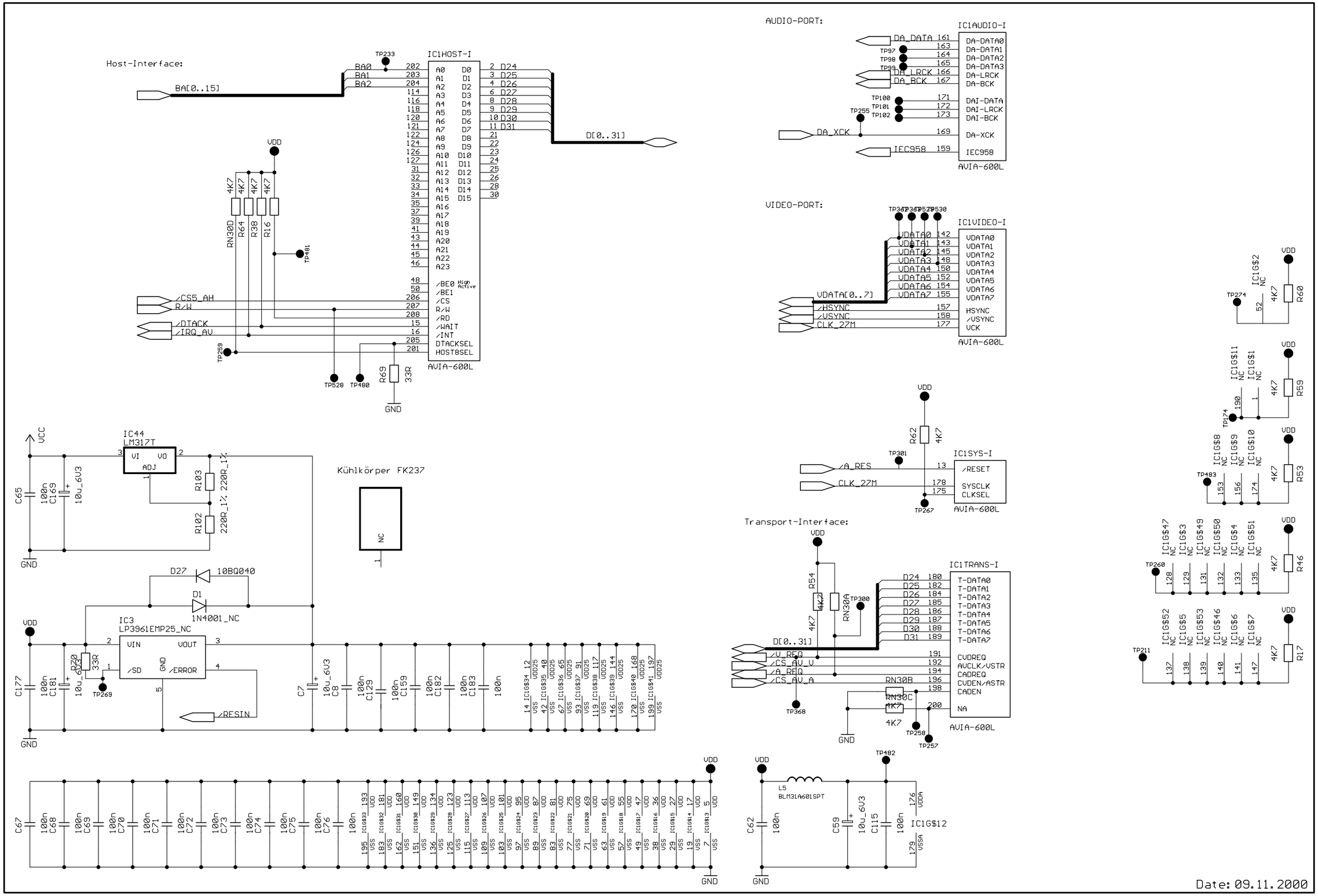
IDE1-Interface



Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs SeleXX PDR 5000 S DIG

MPEG-Decoder



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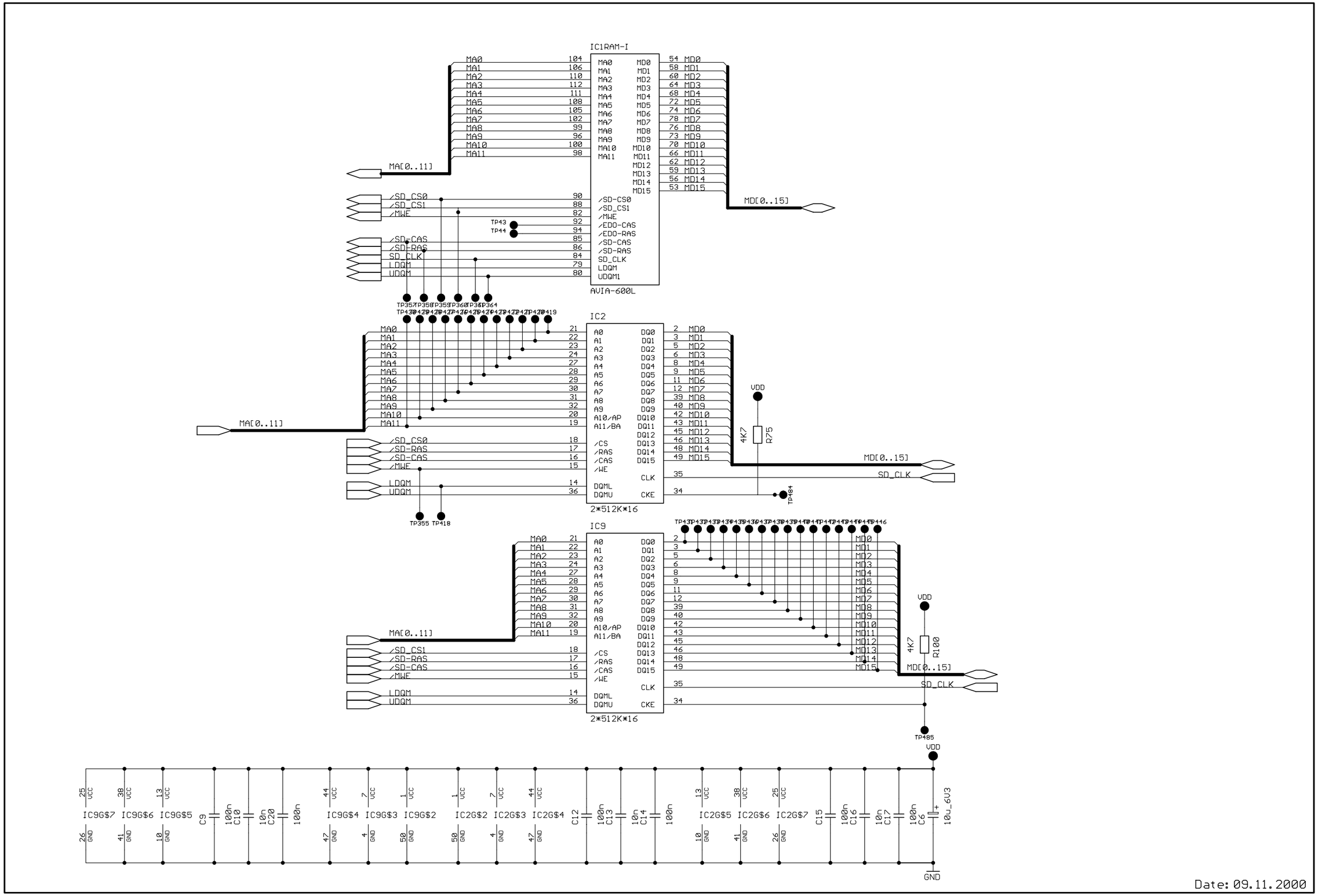
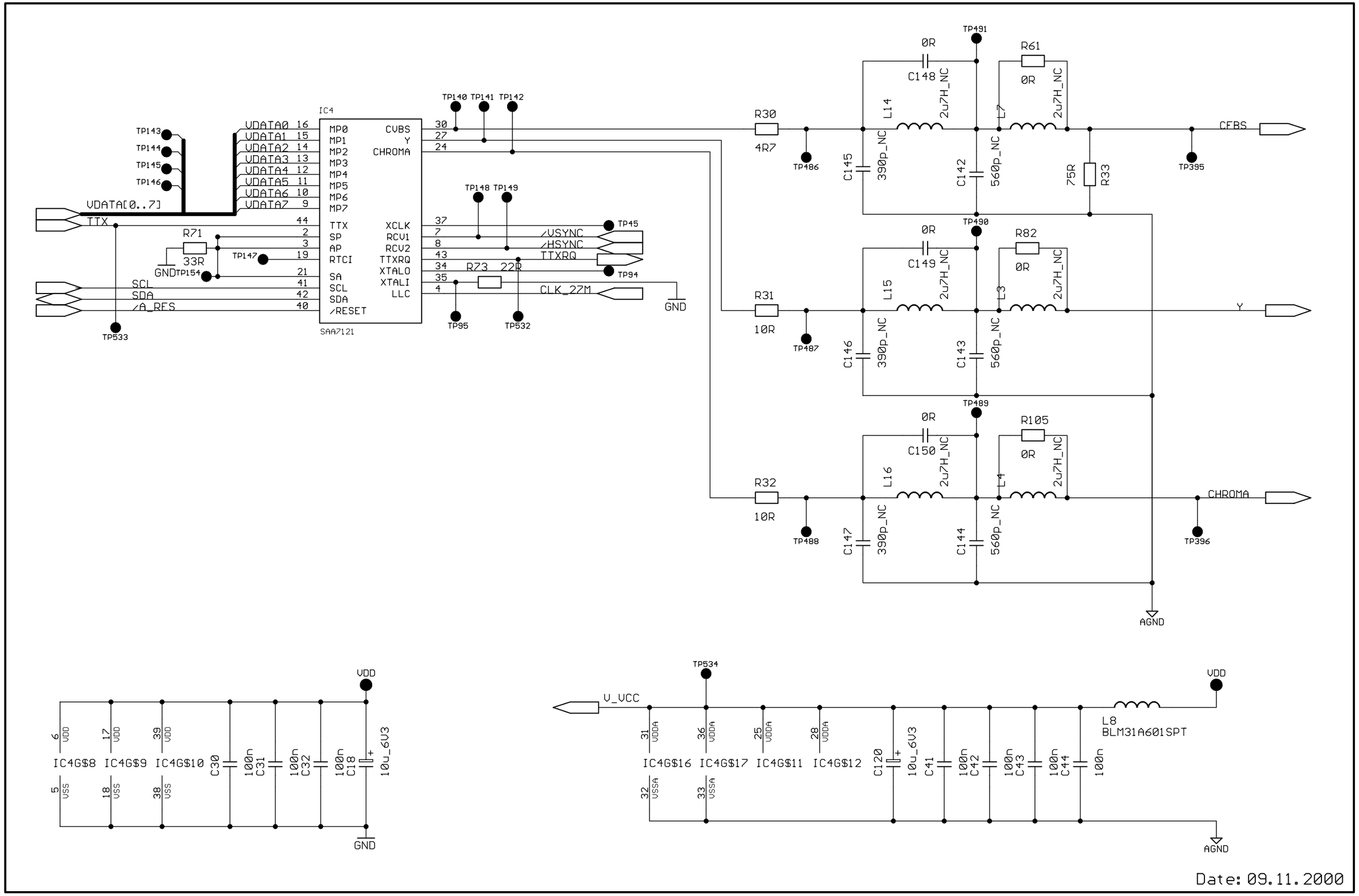
MPEG-SDRAM



Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs SeleXX PDR 5000 S DIG

Video Encoder



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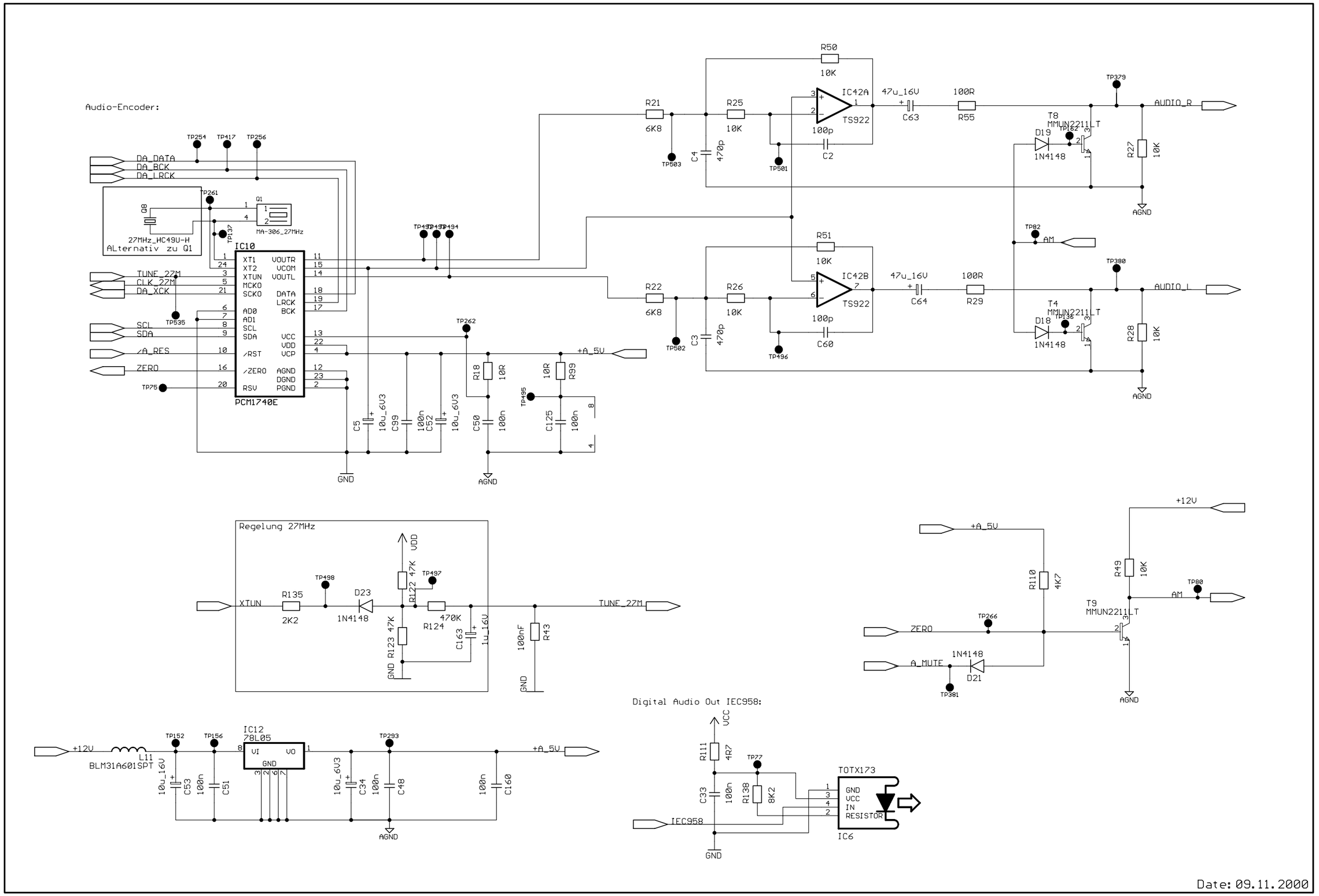
Audio Encoder, IEC958



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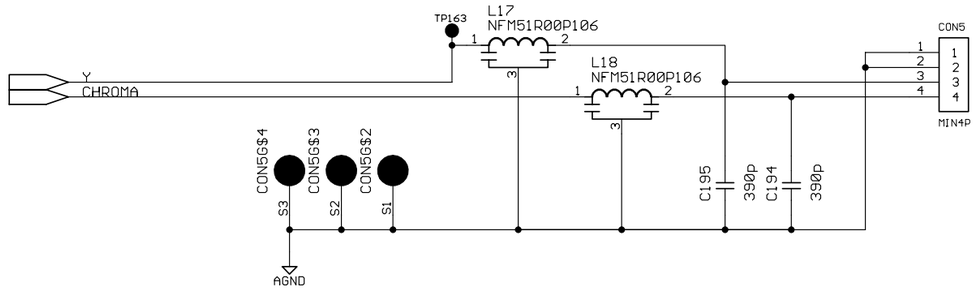
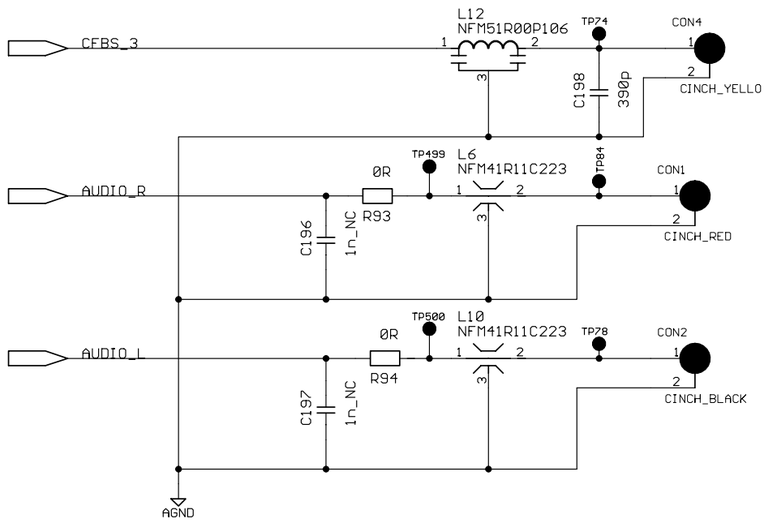
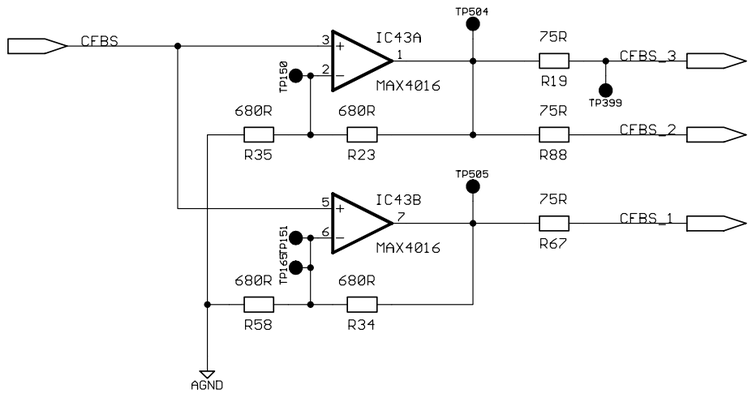
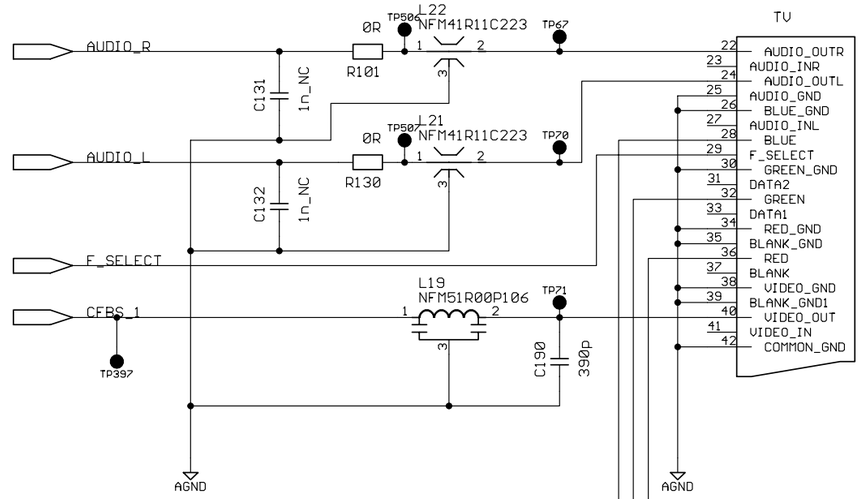
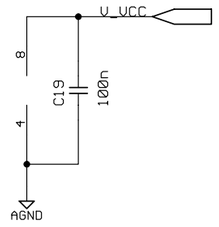
Audio/Video Connectors











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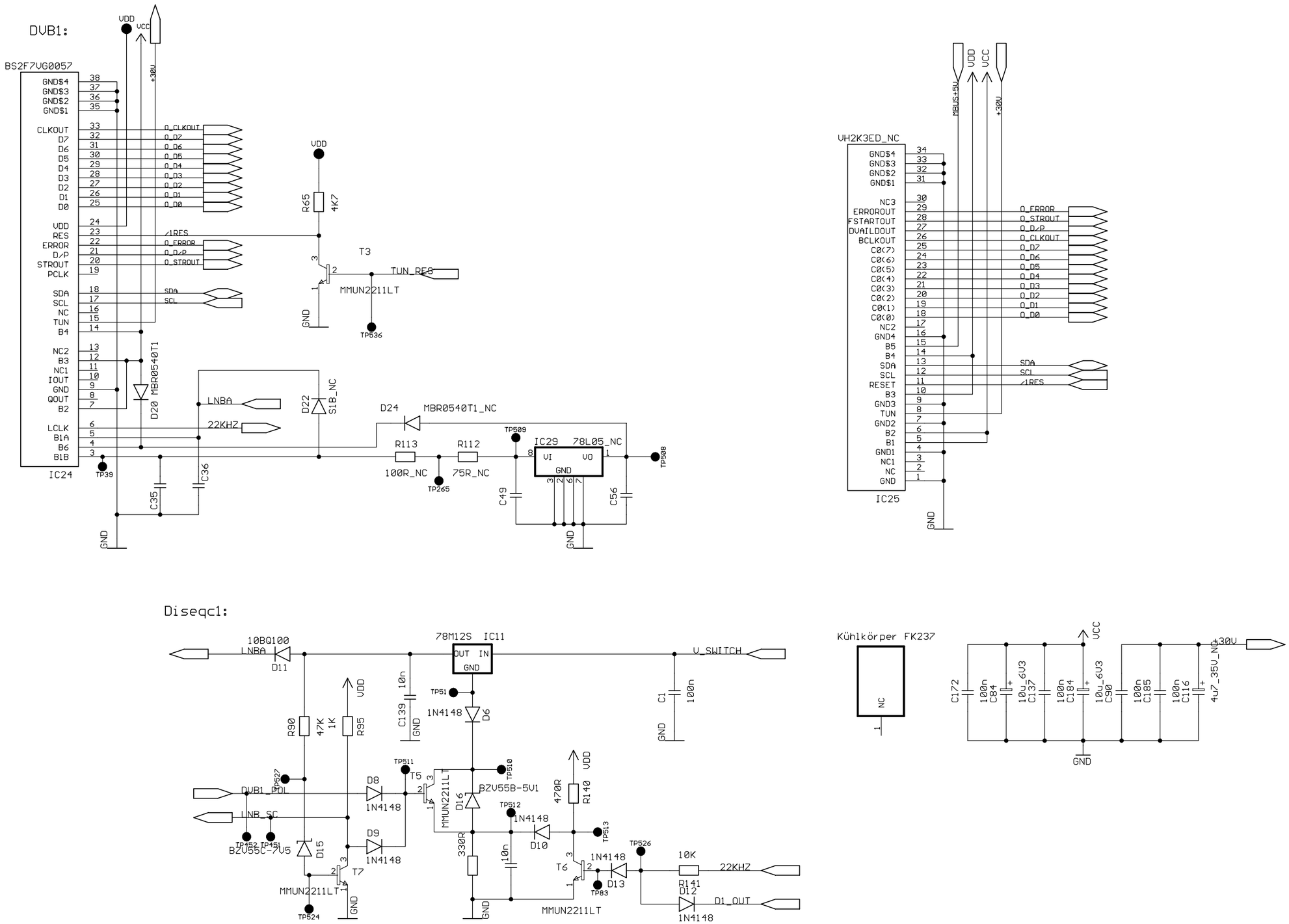
DVB Tuner, Diseqc



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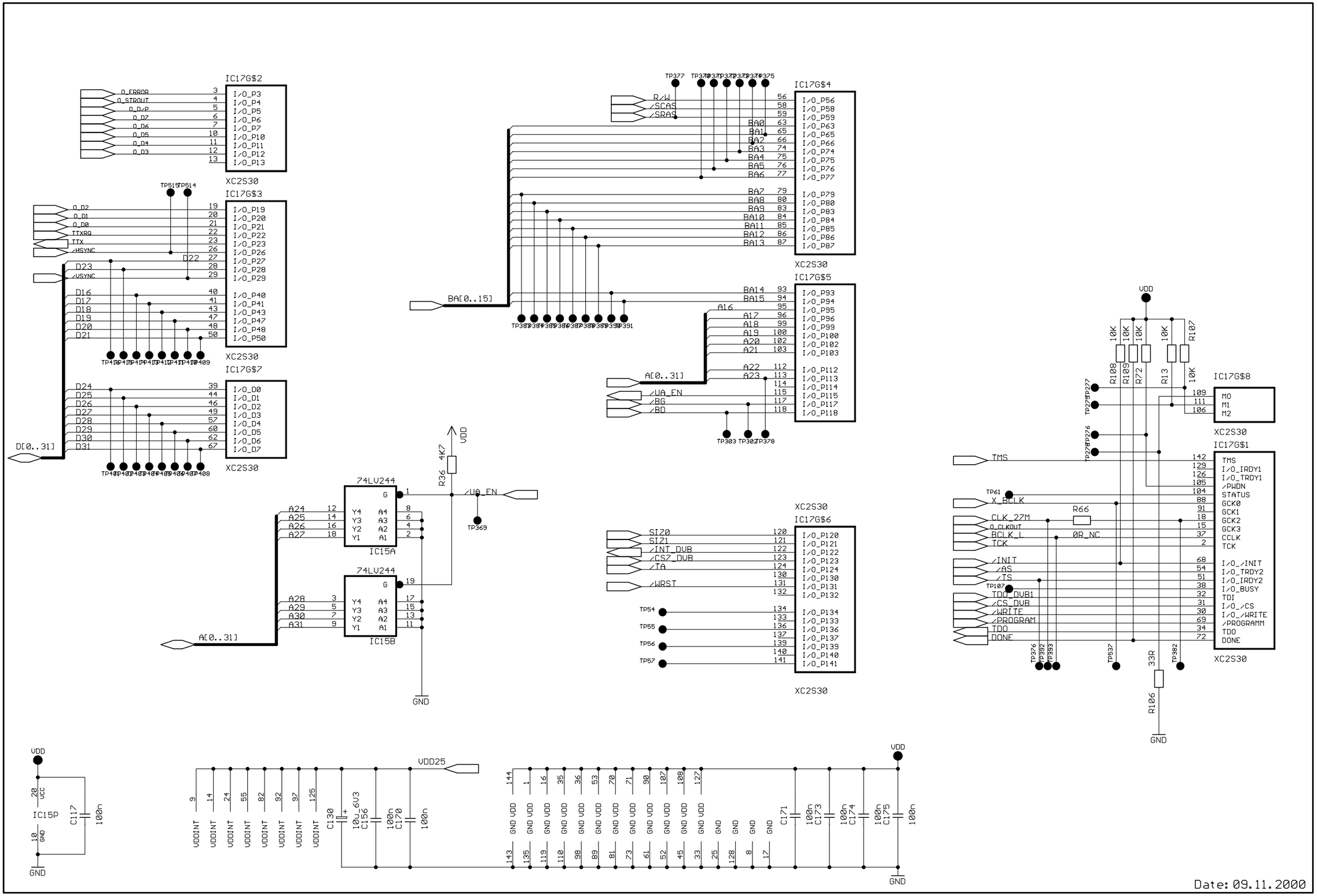
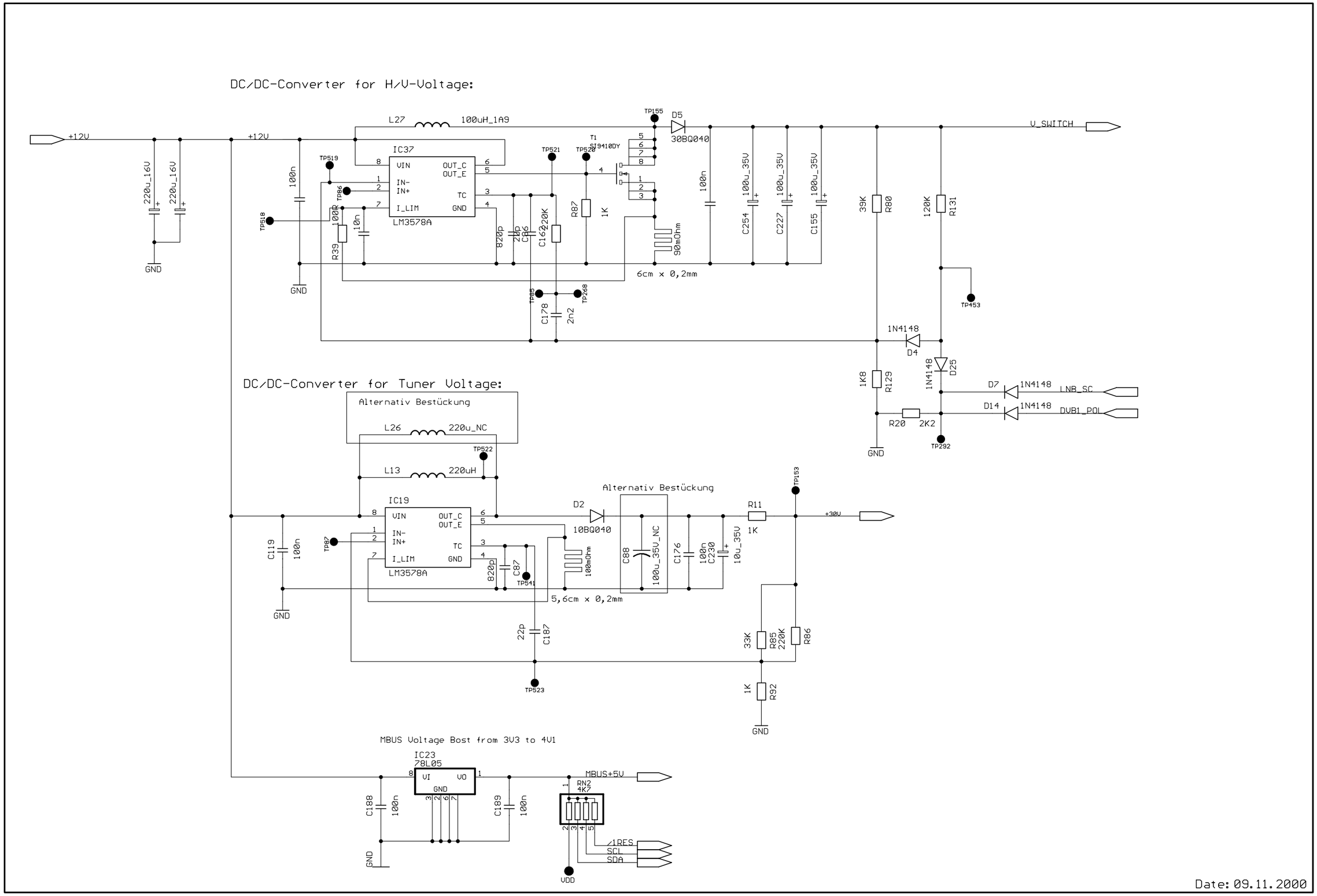
Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs SeleXX PDR 5000 S DIG

DVB Xilinx

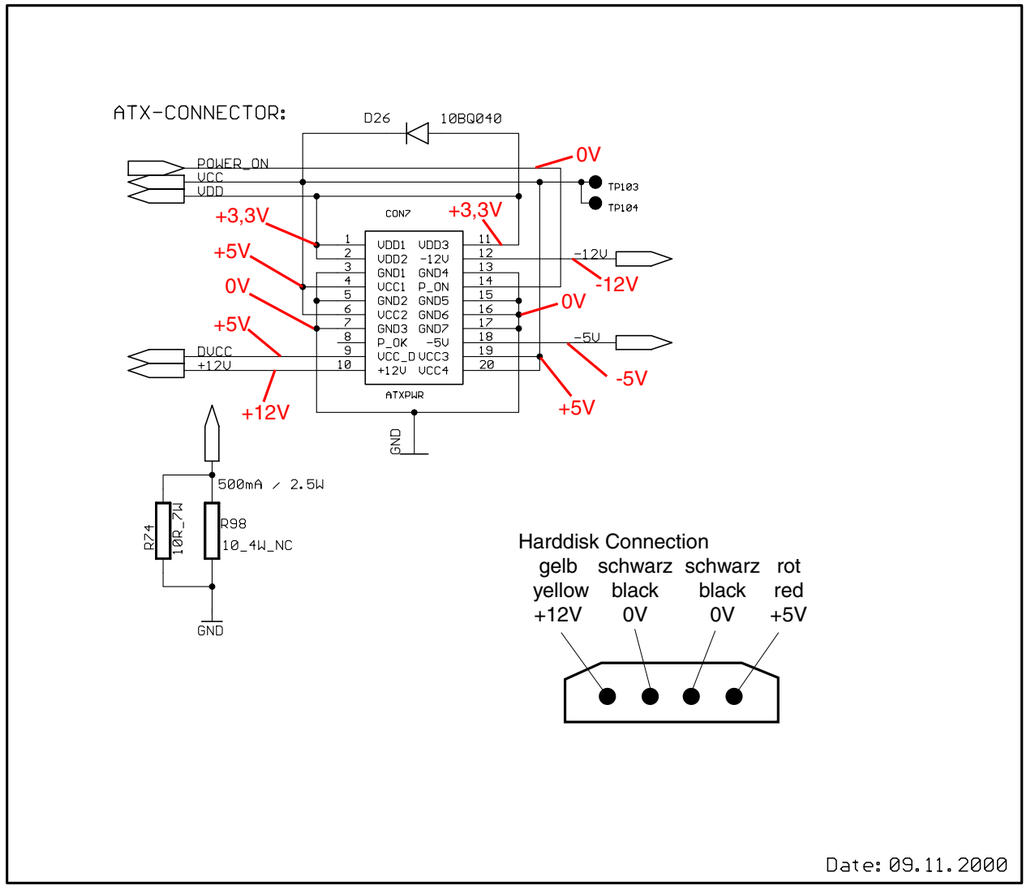


SeleXX PDR 5000 S DIG Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs

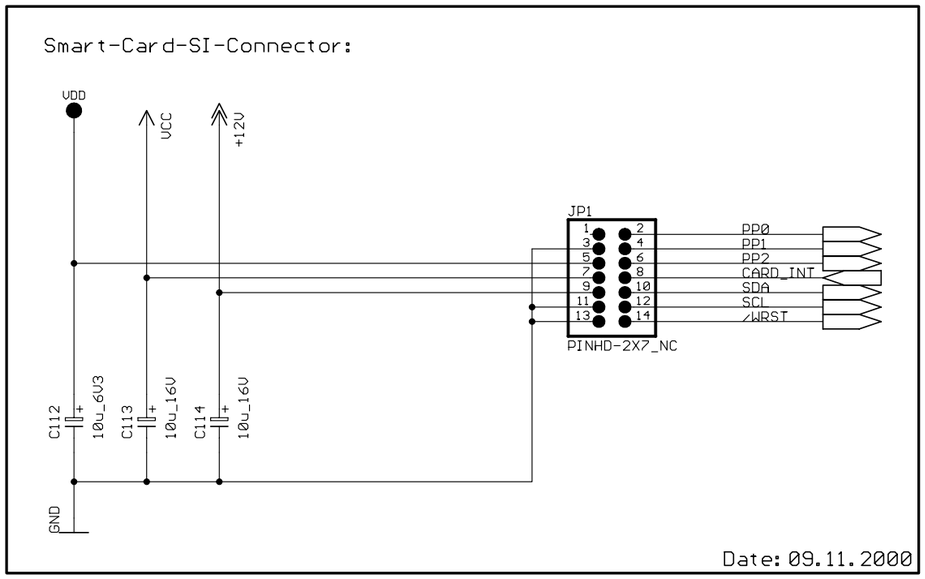
DVB Power Supply



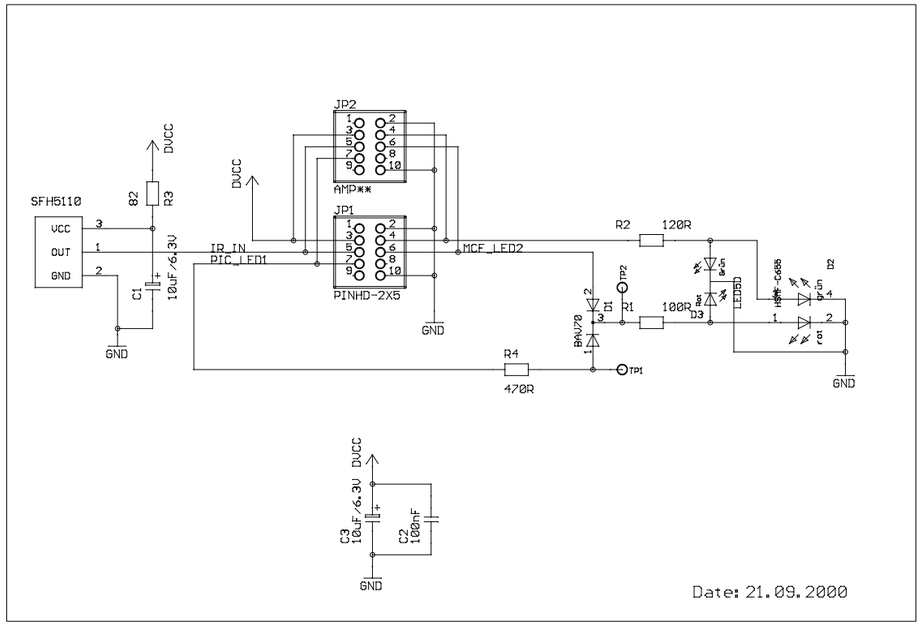
Power

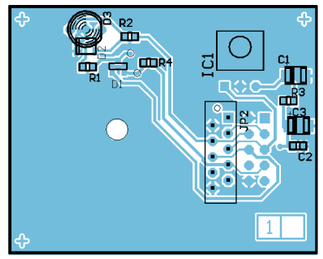


Smart-Card-SI-Connector (Option)



Front Control LED





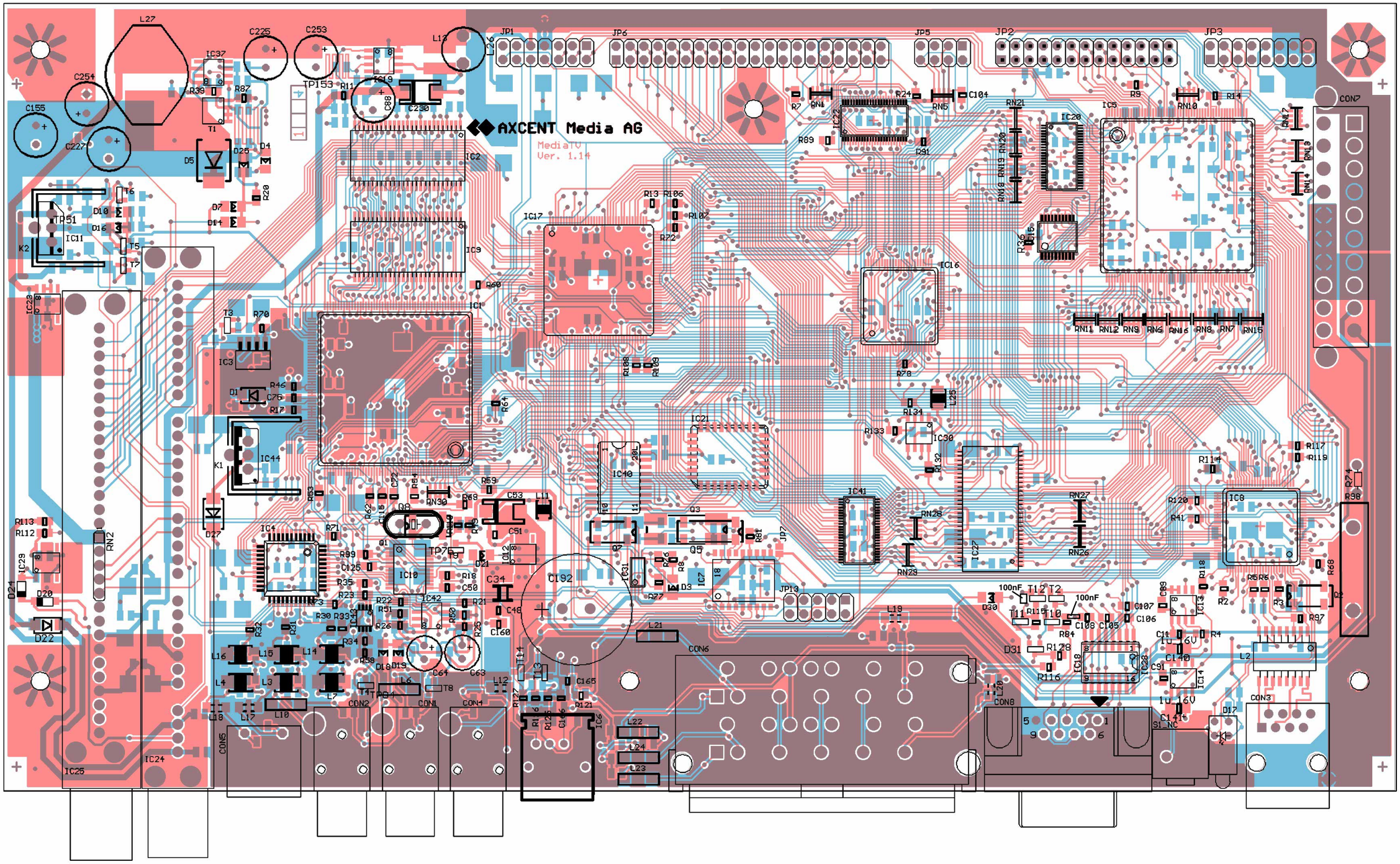
SeleXX PDR 5000 S DIG Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs

Hauptplatte / Main PCB

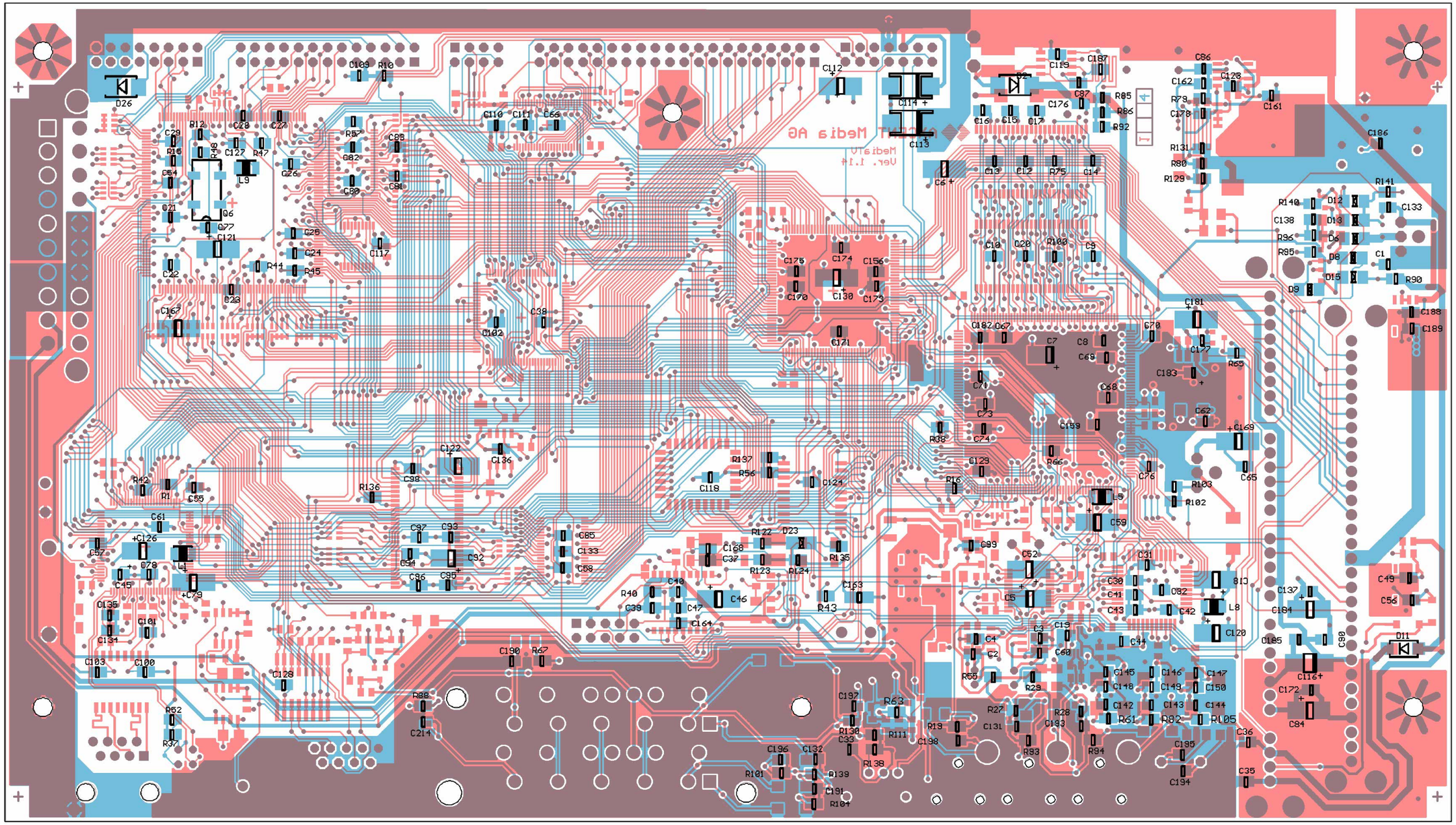
4-Fach-Multilayer-Platte
Die Leiterplatte besteht aus 4 Layern:
Rot - Leiterbahnen der Bestückungsseite, Blau - Leiterbahnen der Lötseite.
Dazwischen liegen noch ein "Betriebsspannungs-Layer" - Gelb und ein "Masse-Layer" - Grün.

4-Times-Multilayer PCB
The PCB consists of 4 layers:
Red - wiring of the component side, blue - wiring of the solder side.
In between there are a "Power Supply" layer - yellow and a "Ground Layer" - green.

Ansicht Bestückungsseite + Layer "Lötseite" / View on component side + layer "Solder Side"

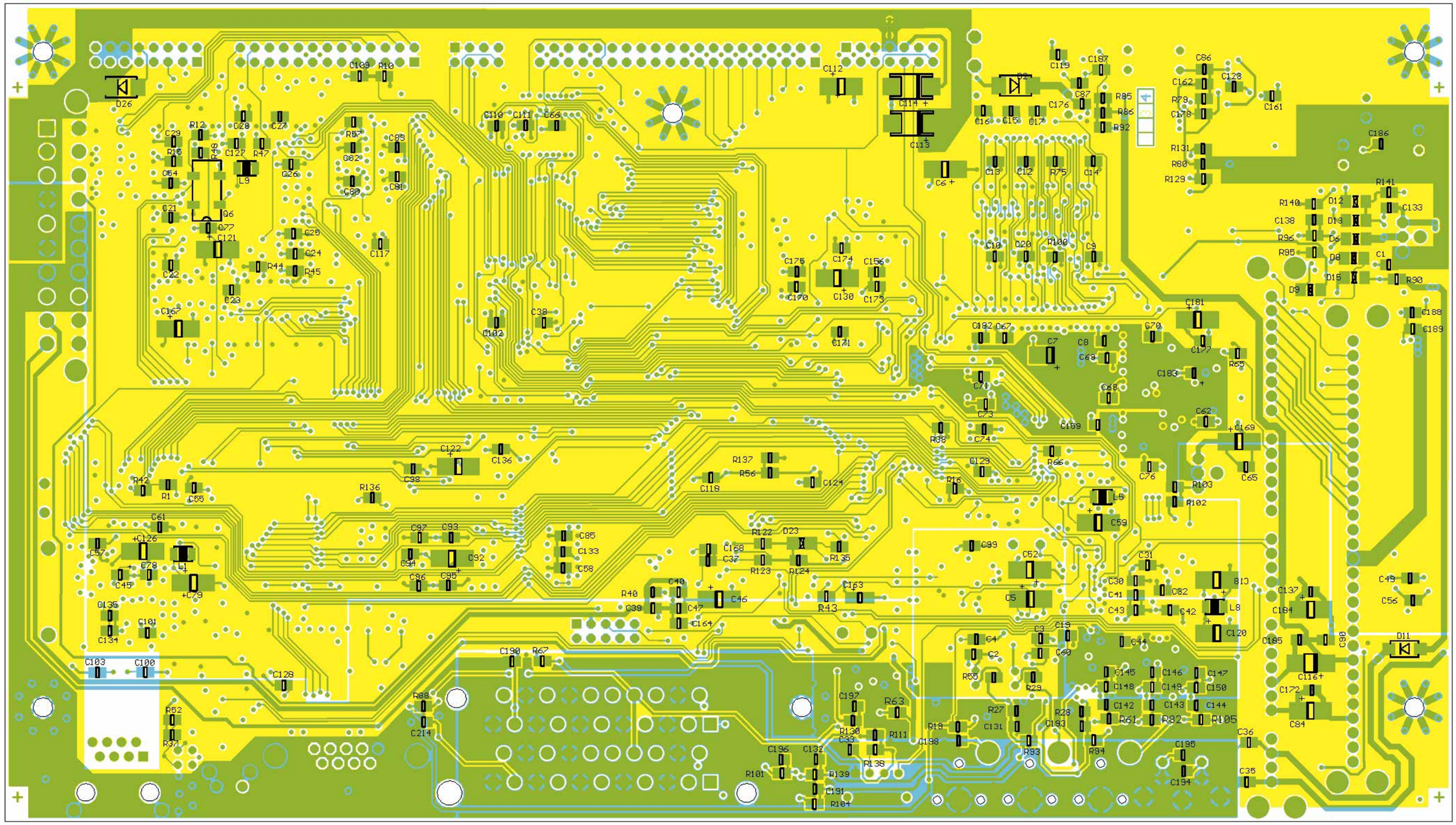


Ansicht Lötseite + Layer "Bestückungsseite" / View on solder side + layer "Component Side"



SeleXX PDR 5000 S DIG Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs

Ansicht Lötseite + Layer "Betriebsspannung" / View on solder side + layer "Power Supply"



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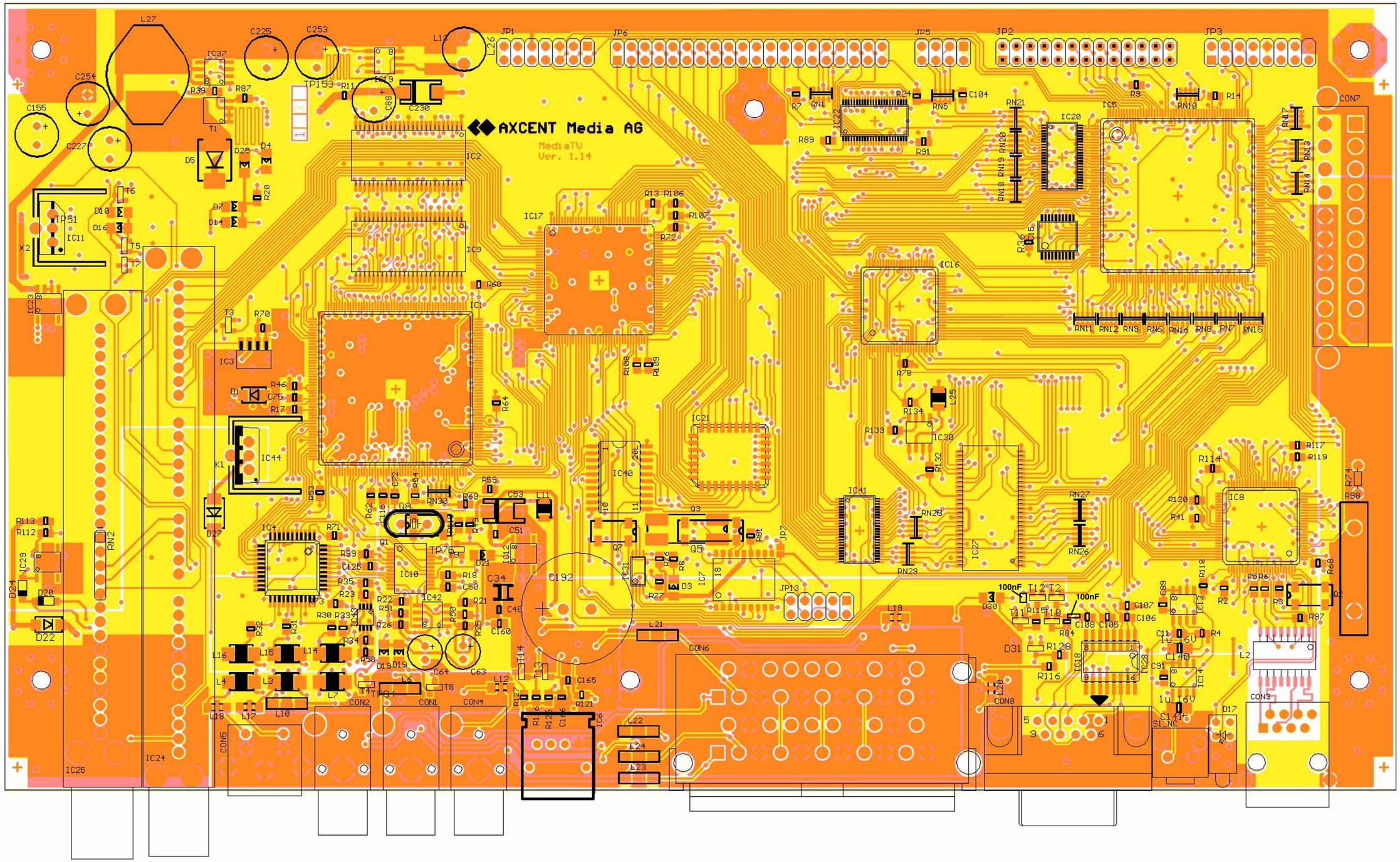
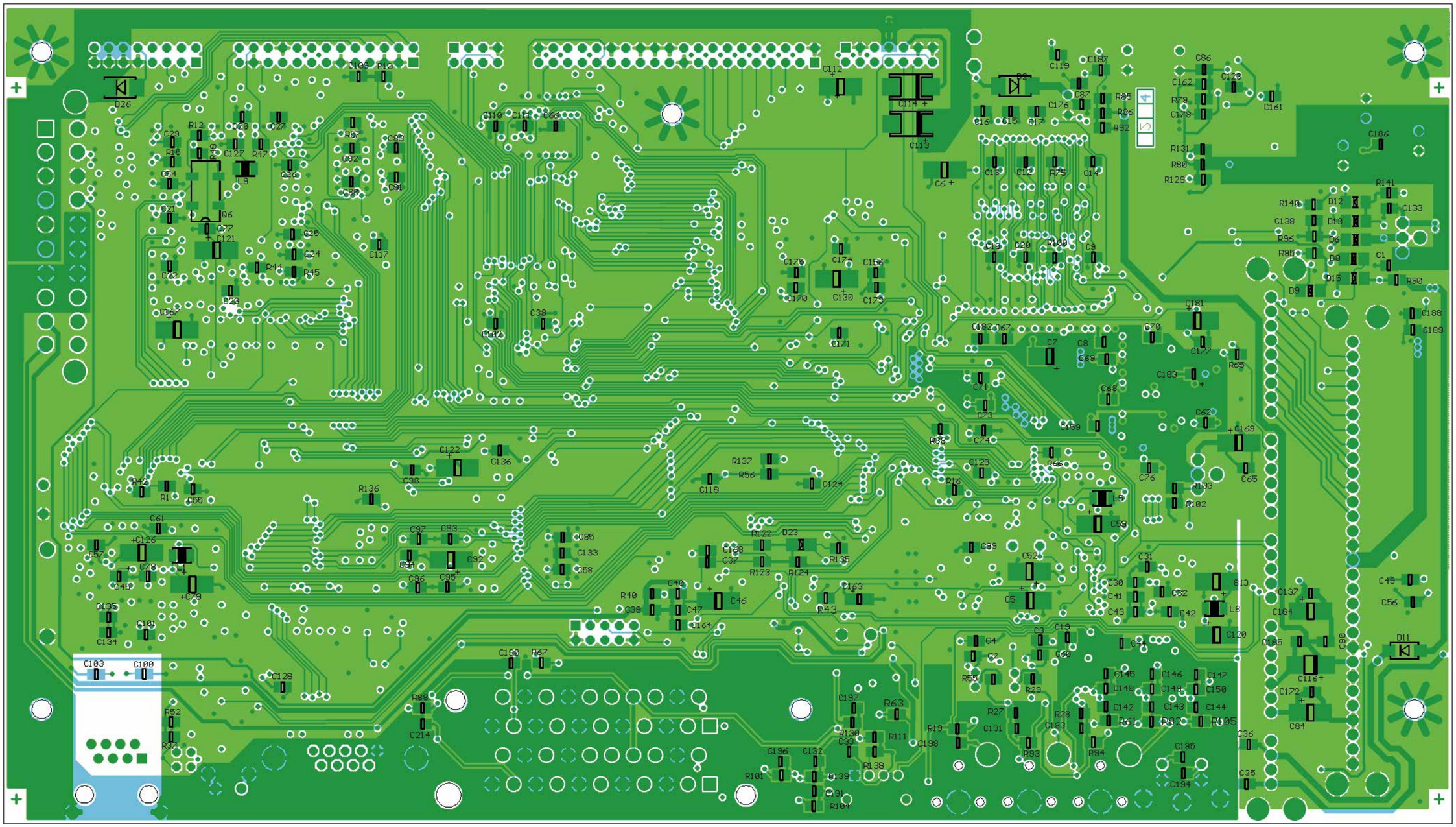
Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs SeleXX PDR 5000 S DIG

Ansicht Bestückungsseite + Layer "Betriebsspannung" / View on Component side + layer "Power Supply"

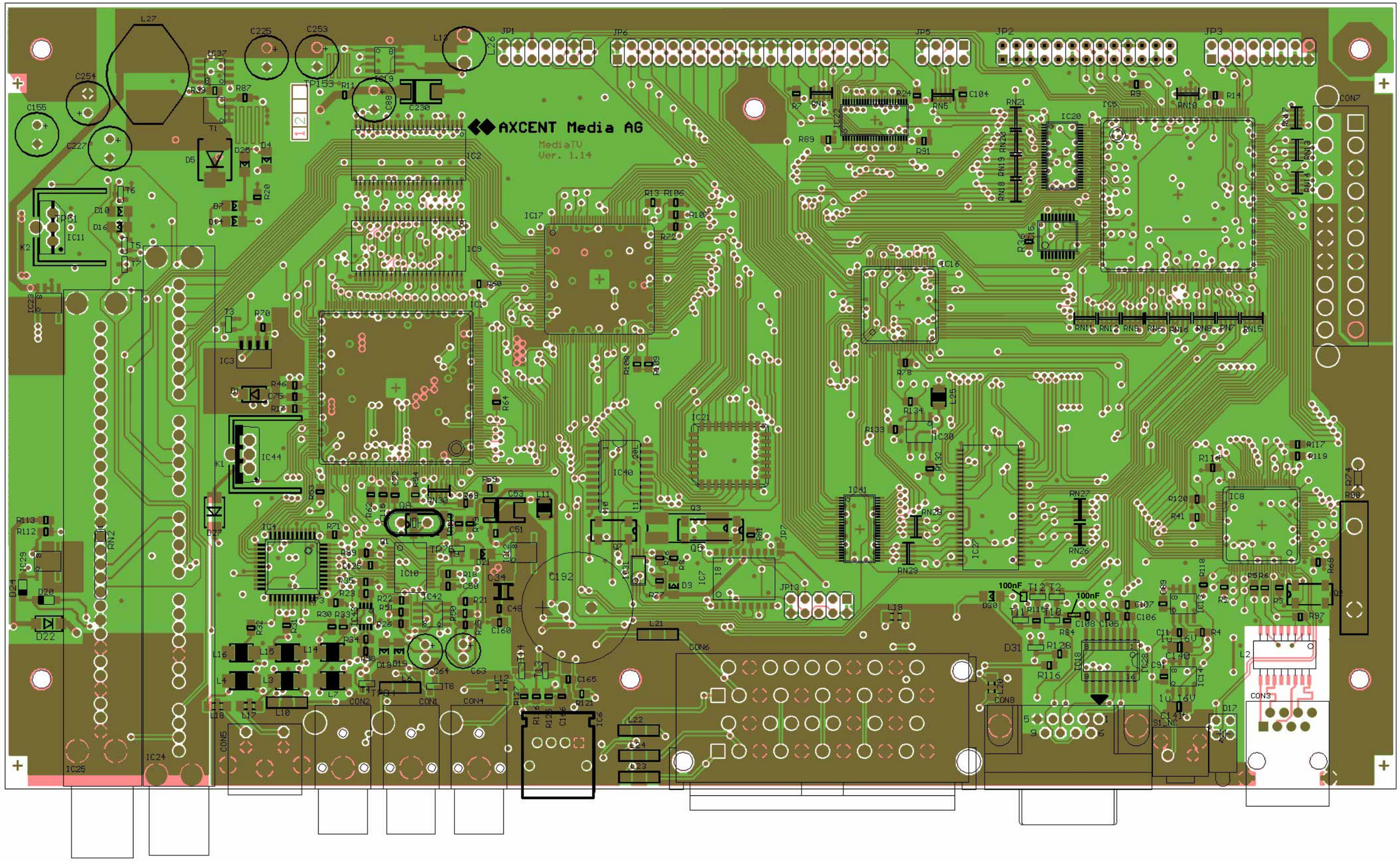


Ansicht Lötseite + Layer "Masse" / View on solder side + layer "Ground"



SeleXX PDR 5000 S DIG
Schaltpläne und Druckplattenabbildungen / Circuit Diagrams and Layout of PCBs

Ansicht Bestückungsseite + Layer "Masse" / View on Component side + layer "Ground"



Signale / Signals

Signal	Bauteil Part	Pin	Seite Page	Beschreibung Description
+12V	C114	1	2-36	Versorgungsspannung
+12V	C119	2	2-34,2-35	
+12V	C123	2	2-34,2-35	
+12V	C188	2	2-34,2-35	
+12V	C225	1	2-34,2-35	
+12V	C253	1	2-34,2-35	
+12V	CON7	10	2-36	
+12V	D30	2	2-10,2-11	
+12V	IC19	8	2-34,2-35	
+12V	IC23	8	2-34,2-35	
+12V	IC37	6	2-34,2-35	
+12V	IC37	8	2-34,2-35	
+12V	JP1	9	2-36	
+12V	JP3	16	2-14,2-15	
+12V	L11	2	2-26,2-27	
+12V	L13	1	2-34,2-35	
+12V	L26	1	2-34,2-35	
+12V	L27	1	2-34,2-35	
+12V	R49	2	2-26,2-27	
+12V	R84	2	2-10,2-11	
+12V	T10	3	2-10,2-11	
+30V	C116	1	2-30,2-31	Tuner
+30V	C185	2	2-30,2-31	Versorgungsspannung
+30V	C90	2	2-30,2-31	
+30V	IC24	15	2-30,2-31	
+30V	IC25	8	2-30,2-31	
+30V	R11	2	2-34,2-35	
+30V	R85	1	2-34,2-35	
+30V	R86	1	2-34,2-35	
+30V	TP153	P$1	2-34,2-35	
+A_5V	C160	2	2-26,2-27	Audio
+A_5V	C34	1	2-26,2-27	Versorgungsspannung
+A_5V	C48	2	2-26,2-27	
+A_5V	C52	1	2-26,2-27	
+A_5V	C99	2	2-26,2-27	
+A_5V	IC10	22	2-26,2-27	
+A_5V	IC10	4	2-26,2-27	
+A_5V	IC12	1	2-26,2-27	
+A_5V	R110	2	2-26,2-27	
+A_5V	R18	2	2-26,2-27	
+A_5V	R99	1	2-26,2-27	
+A_5V	TP293	P$1	2-26,2-27	
-5V	CON7	18	2-36	Versorgungsspannung
-12V	CON7	12	2-36	Versorgungsspannung
/1RES	IC24	23	2-30,2-31	Tuner Reset
/1RES	IC25	11	2-30,2-31	
/1RES	R65	1	2-30,2-31	
/1RES	RN2	5	2-34,2-35	
/1RES	T3	3	2-30,2-31	
/AS	IC17	54	2-32,2-33	Address Strobe
/AS	IC5	62	2-2,2-3	
/AS	IC8	36	2-16,2-17	
/AS	RN9	8	2-2,2-3	
/AS	TP299	P$1	2-2,2-3	
/A_REQ	IC1	194	2-20,2-21	Audio Request
/A_REQ	IC16	92	2-12,2-13	
/A_REQ	IC5	203	2-2,2-3	
/A_REQ	RN30	8	2-20,2-21	
/A_REQ	TP300	P$1	2-20,2-21	
/A_RES	IC1	13	2-20,2-21	Reset Avia/Audio/Video
/A_RES	IC10	10	2-26,2-27	
/A_RES	IC4	40	2-24,2-25	
/A_RES	IC40	6	2-6,2-7	
/A_RES	TP301	P$1	2-20,2-21	
/BD	IC17	118	2-32,2-33	Bus Driven
/BD	IC5	75	2-2,2-3	
/BD	RN16	3	2-2,2-3	
/BD	TP303	P$1	2-32,2-33	
/BDM_RST	C109	2	2-8,2-9	Reset BDM_Interface
/BDM_RST	IC16	56	2-12,2-13	
/BDM_RST	JP2	7	2-8,2-9	
/BDM_RST	R10	1	2-8,2-9	

Signal	Bauteil Part	Pin	Seite Page	Beschreibung Description
/BG	IC17	117	2-32,2-33	Bus Grant
/BG	IC5	76	2-2,2-3	
/BG	RN16	2	2-2,2-3	
/BG	TP302	P$1	2-32,2-33	
/BWE0	IC21	31	2-4,2-5	Byte Write Enable
/BWE0	IC5	96	2-2,2-3	
/BWE0	RN15	4	2-2,2-3	
/BWE0	TP79	P$1	2-2,2-3	
/CS0IDE1	IC16	74	2-12,2-13	Chip Select 0
/CS0IDE1	IC22	44	2-18,2-19	Festplatte 1
/CS0IDE1	TP304	P$1	2-18,2-19	
/CS0_ROM	IC21	22	2-4,2-5	Chip Select EEPROM
/CS0_ROM	IC5	50	2-2,2-3	
/CS0_ROM	RN11	8	2-2,2-3	
/CS0_ROM	TP305	P$1	2-4,2-5	
/CS1IDE1	IC16	72	2-12,2-13	Chip Select 1
/CS1IDE1	IC22	29	2-18,2-19	Festplatte 1
/CS1IDE1	TP307	P$1	2-12,2-13	
/CS2_IDE	IC16	41	2-12,2-13	Chip Select Festplatten
/CS2_IDE	IC5	54	2-2,2-3	
/CS2_IDE	RN11	6	2-2,2-3	
/CS2_IDE	TP312	P$1	2-12,2-13	
/CS3_ETH	IC16	40	2-12,2-13	Chip Select Ethernet
/CS3_ETH	IC5	55	2-2,2-3	
/CS3_ETH	IC8	7	2-16,2-17	
/CS3_ETH	RN11	5	2-2,2-3	
/CS3_ETH	TP311	P$1	2-12,2-13	
/CS4_REG	IC16	35	2-12,2-13	Chip Select Register
/CS4_REG	IC5	56	2-2,2-3	
/CS4_REG	RN12	8	2-2,2-3	
/CS4_REG	TP310	P$1	2-12,2-13	
/CS5_AH	IC1	206	2-20,2-21	Chip Select Avia Host
/CS5_AH	IC16	34	2-12,2-13	Interface
/CS5_AH	IC5	58	2-2,2-3	
/CS5_AH	RN12	7	2-2,2-3	
/CS5_AH	TP309	P$1	2-12,2-13	
/CS6_AT	IC16	33	2-12,2-13	Chip Select Avia
/CS6_AT	IC5	59	2-2,2-3	Transport Interface
/CS6_AT	RN12	6	2-2,2-3	
/CS6_AT	TP308	P$1	2-12,2-13	
/CS7_DVB	IC17	123	2-32,2-33	Chip Select Xilinx
/CS7_DVB	IC5	60	2-2,2-3	Initialisierung
/CS7_DVB	RN12	5	2-2,2-3	
/CS7_DVB	TP314	P$1	2-2,2-3	
/CS_AV_A	IC1	196	2-20,2-21	Data Strobe Audio Stream
/CS_AV_A	IC16	93	2-12,2-13	Avia Transport Interface
/CS_AV_A	TP306	P$1	2-12,2-13	
/CS_AV_V	IC1	192	2-20,2-21	Data Strobe Video Stream
/CS_AV_V	IC16	95	2-12,2-13	Avia Transport Interface
/CS_AV_V	TP316	P$1	2-12,2-13	
/CS_DVB	IC16	46	2-12,2-13	Chip Select DVB Modul
/CS_DVB	IC17	31	2-32,2-33	
/CS_DVB	TP313	P$1	2-12,2-13	
/CS_REG2	IC16	2	2-12,2-13	Chip Select DVB Register
/CS_REG2	IC40	11	2-6,2-7	
/CS_REG2	TP317	P$1	2-12,2-13	
/DQM0	IC27	15	2-4,2-5	Data I/O Mask SPEICHER
/DQM0	RN8	5	2-4,2-5	Lower Byte
/DQM0	TP332	P$1	2-4,2-5	
/DQM1	IC27	39	2-4,2-5	Data I/O Mask SPEICHER
/DQM1	RN8	6	2-4,2-5	Upper Byte
/DQM1	TP331	P$1	2-4,2-5	
/DQM2	RN8	7	2-4,2-5	Data I/O Mask SPEICHER
/DQM2	TP288	P$1	2-4,2-5	free
/DQM3	RN8	8	2-4,2-5	Data I/O Mask SPEICHER
/DQM3	TP289	P$1	2-4,2-5	free
/DREQ0	IC16	52	2-12,2-13	DMA Transfer Request(0)

Signal	Bauteil Part	Pin	Seite Page	Beschreibung Description
/DREQ0	IC5	199	2-2,2-3	
/DREQ0	TP327	P$1	2-2,2-3	
/DREQ1	IC16	53	2-12,2-13	DMA Transfer Request(1)
/DREQ1	IC5	200	2-2,2-3	
/DREQ1	TP328	P$1	2-2,2-3	
/DTACK	IC1	15	2-20,2-21	Data acknowledge
/DTACK	IC16	91	2-12,2-13	Avia Host Interface
/DTACK	R38	1	2-20,2-21	
/DTACK	TP351	P$1	2-12,2-13	
/EN_IDE1	IC16	70	2-12,2-13	Enable Festplatte
/EN_IDE1	IC22	25	2-18,2-19	
/EN_IDE1	IC22	48	2-18,2-19	
/EN_IDE1	IC41	25	2-18,2-19	
/EN_IDE1	IC41	48	2-18,2-19	
/EN_IDE1	TP320	P$1	2-12,2-13	
/HIZ	IC5	155	2-2,2-3	High Impedance für
/HIZ	RN17	5	2-2,2-3	alle Ausgänge Coldfire
/HIZ	TP217	P$1	2-2,2-3	
/HSYNC	IC1	157	2-20,2-21	horizontale Synchr.
/HSYNC	IC17	26	2-32,2-33	Video Signal
/HSYNC	IC4	8	2-24,2-25	
/HSYNC	TP149	P$1	2-24,2-25	
/HSYNC	TP515	P$1	2-32,2-33	
/INIT	IC16	49	2-12,2-13	Initialisierung Xilinx
/INIT	IC17	68	2-32,2-33	
/INIT	R108	1	2-32,2-33	
/INIT	TP315	P$1	2-12,2-13	
/INT_DVB	IC16	78	2-12,2-13	Interrupt DVB Modul
/INT_DVB	IC17	122	2-32,2-33	
/INT_DVB	TP318	P$1	2-12,2-13	
/IO16	IC16	24	2-12,2-13	Adresse erkannt
/IO16	IC22	9	2-18,2-19	
/IO16	IC8	33	2-16,2-17	
/IO16	IC8	34	2-16,2-17	
/IO16	R42	2	2-16,2-17	
/IO16	TP338	P$1	2-12,2-13	
/IOCHRDY	IC16	17	2-12,2-13	IO Channel Ready
/IOCHRDY	IC22	12	2-18,2-19	
/IOCHRDY	IC8	64	2-16,2-17	
/IOCHRDY	R41	2	2-16,2-17	
/IOCHRDY	TP339	P$1	2-12,2-13	
/IOR	IC16	69	2-12,2-13	I/O Read
/IOR	IC22	46	2-18,2-19	
/IOR	IC41	1	2-18,2-19	
/IOR	IC41	24	2-18,2-19	
/IOR	IC8	61	2-16,2-17	
/IOR	TP348	P$1	2-12,2-13	
/IOW	IC16	18	2-12,2-13	I/O Write
/IOW	IC22	47	2-18,2-19	
/IOW	IC8	62	2-16,2-17	
/IOW	TP334	P$1	2-12,2-13	
/IRQ1	IC16	26	2-12,2-13	Interrupt Request 1
/IRQ1	IC5	72	2-2,2-3	
/IRQ1	RN6	1	2-2,2-3	
/IRQ1	TP47	P$1	2-2,2-3	
/IRQ3	IC16	27	2-12,2-13	Interrupt Request 3
/IRQ3	IC5	71	2-2,2-3	
/IRQ3	RN6	2	2-2,2-3	
/IRQ3	TP48	P$1	2-2,2-3	
/IRQ5	IC16	28	2-12,2-13	Interrupt Request 5
/IRQ5	IC5	70	2-2,2-3	
/IRQ5	RN6	3	2-2,2-3	
/IRQ5	TP329	P$1	2-2,2-3	
/IRQ7	IC16	29	2-12,2-13	Interrupt Request 7
/IRQ7	IC5	68	2-2,2-3	
/IRQ7	RN6	4	2-2,2-3	
/IRQ7	TP218	P$1	2-2,2-3	
/IRQ_AV	IC1	16	2-20,2-21	Interrupt Avia
/IRQ_AV	IC16	96	2-12,2-13	
/IRQ_AV	R64	1	2-20,2-21	
/IRQ_AV	TP349	P$1	2-12,2-13	

Signal	Bauteil Part	Pin	Seite Page	Beschreibung Description
/ISPEN	C104	2	2-12,2-13	Lattice Enable
/ISPEN	IC16	15	2-12,2-13	vom Programmierstecker
/ISPEN	JP5	4	2-12,2-13	
/ISPEN	RN5	1	2-12,2-13	
/MWE	IC1	82	2-22,2-23	Memory Write Enable
/MWE	IC2	15	2-22,2-23	Avia Speicher
/MWE	IC9	15	2-22,2-23	
/MWE	TP355	P$1	2-22,2-23	
/OE	IC21	24	2-4,2-5	Output Enable
/OE	IC5	49	2-2,2-3	EEPROM
/OE	R45	2	2-2,2-3	
/OE	TP330	P$1	2-2,2-3	
/PROGRAM	IC16	47	2-12,2-13	Programmierung
/PROGRAM	IC17	69	2-32,2-33	Xilinx
/PROGRAM	TP323	P$1	2-12,2-13	
/RESIN	C11	2	2-8,2-9	Reset Eingang (Taster)
/RESIN	IC13	2	2-8,2-9	
/RESIN	IC3	4	2-20,2-21	
/RESIN	R4	1	2-8,2-9	
/RESIN	S1	1	2-8,2-9	
/RST	IC16	42	2-12,2-13	Reset
/RST	IC5	67	2-2,2-3	
/RST	R44	2	2-2,2-3	
/RST	TP340	P$1	2-12,2-13	
/RTCINTA	IC16	90	2-12,2-13	RTC Alarm A
/RTCINTA	IC31	1	2-10,2-11	Abschalten
/RTCINTA	R77	2	2-10,2-11	
/RTCINTA	TP321	P$1	2-12,2-13	
/RTCINTB	IC31	5	2-10,2-11	RTC Alarm B
/RTCINTB	IC7	3	2-10,2-11	Einschalten
/RTCINTB	R76	2	2-10,2-11	
/RTCINTB	TP356	P$1	2-10,2-11	
/SCART5V	IC16	45	2-12,2-13	Video Modus 4:3
/SCART5V	T12	2	2-10,2-11	
/SCART5V	TP319	P$1	2-12,2-13	
/SCART12	IC16	43	2-12,2-13	Video Modus 16:9
/SCART12	T2	2	2-10,2-11	
/SCART12	TP325	P$1	2-12,2-13	
/SCAS	IC17	58	2-32,2-33	CAS-Signal SPEICHER
/SCAS	IC27	17	2-4,2-5	
/SCAS	RN7	7	2-4,2-5	
/SCAS	TP335	P$1	2-4,2-5	
/SD-CAS	IC1	85	2-22,2-23	CAS-Signal SPEICHER
/SD-CAS	IC2	16	2-22,2-23	Avia
/SD-CAS	IC9	16	2-22,2-23	
/SD-CAS	TP357	P$1	2-22,2-23	
/SD-RAS	IC1	86	2-22,2-23	RAS-Signal SPEICHER
/SD-RAS	IC2	17	2-22,2-23	Avia
/SD-RAS	IC9	17	2-22,2-23	
/SD-RAS	TP358	P$1	2-22,2-23	
/SD_CS0	IC1	90	2-22,2-23	Chip Select 0
/SD_CS0	IC2	18	2-22,2-23	Avia SPEICHER
/SD_CS0	TP359	P$1	2-22,2-23	
/SD_CS1	IC1	88	2-22,2-23	Chip Select 1
/SD_CS1	IC9	18	2-22,2-23	Avia SPEICHER
/SD_CS1	TP360	P$1	2-22,2-23	
/SRAS	IC17	59	2-32,2-33	RAS-Signal SPEICHER
/SRAS	IC27	18	2-4,2-5	
/SRAS	RN7	6	2-4,2-5	
/SRAS	TP377	P$1	2-32,2-33	
/TA	IC16	30	2-12,2-13	Transfer Acknowledge
/TA	IC17	124	2-32,2-33	
/TA	IC5	64	2-2,2-3	
/TA	JP2	26	2-8,2-9	
/TA	RN9	6	2-2,2-3	
/TS	IC17	51	2-32,2-33	Transfer Start
/TS	IC5	66	2-2,2-3	
/TS	RN9	5	2-2,2-3	
/TS	TP376	P$1	2-32,2-33	

Signal	Bauteil Part	Pin	Seite Page	Beschreibung Description
/UA_EN	IC15	1	2-32,2-33	Adress Enable
/UA_EN	IC15	19	2-32,2-33	Steuerleitung Bustreiber
/UA_EN	IC17	115	2-32,2-33	
/UA_EN	IC20	1	2-6,2-7	
/UA_EN	IC20	24	2-6,2-7	
/UA_EN	R36	1	2-32,2-33	
/UA_EN	TP369	P$1	2-32,2-33	
/VSYNC	IC1	158	2-20,2-21	Vertikale Synchr.
/VSYNC	IC17	29	2-32,2-33	Video-Signal
/VSYNC	IC4	7	2-24,2-25	
/VSYNC	TP148	P$1	2-24,2-25	
/VSYNC	TP514	P$1	2-32,2-33	
/V_REQ	IC1	191	2-20,2-21	Video Request
/V_REQ	IC16	55	2-12,2-13	
/V_REQ	IC5	202	2-2,2-3	
/V_REQ	R54	2	2-20,2-21	
/V_REQ	TP368	P$1	2-20,2-21	
/WRITE	IC16	48	2-12,2-13	Write
/WRITE	IC17	30	2-32,2-33	Initialisierung Xilinx
/WRITE	TP324	P$1	2-12,2-13	
/WRST	IC14	5	2-8,2-9	Reset Signal
/WRST	IC16	83	2-12,2-13	
/WRST	IC17	131	2-32,2-33	
/WRST	IC22	27	2-18,2-19	
/WRST	IC40	1	2-6,2-7	
/WRST	JP1	14	2-36	
22KHZ	IC24	6	2-30,2-31	22 kHz Umschaltsignal
22KHZ	R141	2	2-30,2-31	Tuner
A/CS0	IC22	5	2-18,2-19	siehe /CS0IDE1
A/CS0	JP6	37	2-18,2-19	Treiber
A/CS1	IC22	20	2-18,2-19	siehe /CS1IDE1
A/CS1	JP6	38	2-18,2-19	nach Treiber
A/CS1	TP193	P$1	2-18,2-19	
A/IOCS16	IC22	40	2-18,2-19	siehe /IOCS16
A/IOCS16	JP6	32	2-18,2-19	nach Treiber
A/IOCS16	RN1	2	2-18,2-19	
A/IOR	IC22	3	2-18,2-19	siehe /IOR
A/IOR	JP6	25	2-18,2-19	nach Treiber
A/IOR	TP186	P$1	2-18,2-19	
A/IOW	IC22	2	2-18,2-19	siehe /IOW
A/IOW	JP6	23	2-18,2-19	nach Treiber
A/IOW	TP185	P$1	2-18,2-19	
A/RES	IC22	22	2-18,2-19	siehe /WRST
A/RES	JP6	1	2-18,2-19	nach Treiber
A0	IC20	47	2-6,2-7	Adressleitung
A0	IC5	2	2-2,2-3	
A0	TP232	P$1	2-2,2-3	
A1	IC20	46	2-6,2-7	Adressleitung
A1	IC5	3	2-2,2-3	
A1	TP235	P$1	2-2,2-3	
A2	IC20	44	2-6,2-7	Adressleitung
A2	IC5	5	2-2,2-3	
A2	TP236	P$1	2-2,2-3	
A3	IC20	43	2-6,2-7	Adressleitung
A3	IC5	6	2-2,2-3	
A3	TP111	P$1	2-2,2-3	
A4	IC20	41	2-6,2-7	Adressleitung
A4	IC5	8	2-2,2-3	
A4	TP238	P$1	2-2,2-3	
A5	IC20	40	2-6,2-7	Adressleitung
A5	IC5	9	2-2,2-3	
A5	TP173	P$1	2-2,2-3	
A6	IC20	38	2-6,2-7	Adressleitung
A6	IC5	11	2-2,2-3	
A6	TP239	P$1	2-2,2-3	
A7	IC20	37	2-6,2-7	Adressleitung
A7	IC5	12	2-2,2-3	
A7	TP175	P$1	2-2,2-3	
A8	IC20	36	2-6,2-7	Adressleitung
A8	IC5	14	2-2,2-3	
A8	TP240	P$1	2-2,2-3	
A9	IC20	35	2-6,2-7	Adressleitung
A9	IC5	15	2-2,2-3	
A9	TP241	P$1	2-2,2-3	
A10	IC20	33	2-6,2-7	Adressleitung
A10	IC5	16	2-2,2-3	
A10	TP270	P$1	2-2,2-3	
A11	IC20	32	2-6,2-7	Adressleitung
A11	IC5	18	2-2,2-3	
A11	TP243	P$1	2-2,2-3	
A12	IC20	30	2-6,2-7	Adressleitung
A12	IC5	19	2-2,2-3	
A12	TP244	P$1	2-2,2-3	
A13	IC20	29	2-6,2-7	Adressleitung
A13	IC5	20	2-2,2-3	
A13	TP271	P$1	2-2,2-3	
A14	IC20	27	2-6,2-7	Adressleitung
A14	IC5	22	2-2,2-3	
A14	TP246	P$1	2-2,2-3	
A15	IC20	26	2-6,2-7	Adressleitung
A15	IC5	23	2-2,2-3	
A15	TP247	P$1	2-2,2-3	
A16	IC16	82	2-12,2-13	Adressleitung
A16	IC17	95	2-32,2-33	
A16	IC21	2	2-4,2-5	
A16	IC27	23	2-4,2-5	
A16	IC5	24	2-2,2-3	
A16	TP342	P$1	2-4,2-5	
A17	IC16	80	2-12,2-13	Adressleitung
A17	IC17	96	2-32,2-33	
A17	IC21	30	2-4,2-5	
A17	IC27	33	2-4,2-5	
A17	IC5	26	2-2,2-3	
A17	TP341	P$1	2-4,2-5	
A18	IC16	79	2-12,2-13	Adressleitung
A18	IC17	99	2-32,2-33	
A18	IC27	34	2-4,2-5	
A18	IC5	27	2-2,2-3	
A18	TP333	P$1	2-4,2-5	
A19	IC17	100	2-32,2-33	Adressleitung
A19	IC27	22	2-4,2-5	
A19	IC5	28	2-2,2-3	
A19	TP343	P$1	2-4,2-5	
A20	IC17	102	2-32,2-33	Adressleitung
A20	IC27	35	2-4,2-5	
A20	IC5	30	2-2,2-3	
A20	TP344	P$1	2-4,2-5	
A21	IC17	103	2-32,2-33	Adressleitung
A21	IC27	21	2-4,2-5	
A21	IC5	31	2-2,2-3	
A21	TP337	P$1	2-4,2-5	
A22	IC17	112	2-32,2-33	Adressleitung
A22	IC27	20	2-4,2-5	
A22	IC5	32	2-2,2-3	
A22	TP336	P$1	2-4,2-5	
A23	IC17	113	2-32,2-33	Adressleitung
A23	IC5	34	2-2,2-3	
A23	TP378	P$1	2-32,2-33	
A24	IC15	12	2-32,2-33	Adressleitung
A24	IC5	35	2-2,2-3	
A24	TP226	P$1	2-2,2-3	
A25	IC15	14	2-32,2-33	Adressleitung
A25	IC5	36	2-2,2-3	
A25	TP225	P$1	2-2,2-3	
A26	IC15	16	2-32,2-33	Adressleitung

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A26	IC5	38	2-2,2-3	
A26	TP224	P$1	2-2,2-3	
A27	IC15	18	2-32,2-33	Adressleitung
A27	IC5	39	2-2,2-3	
A27	TP223	P$1	2-2,2-3	
A28	IC15	3	2-32,2-33	Adressleitung
A28	IC5	40	2-2,2-3	
A28	TP222	P$1	2-2,2-3	
A29	IC15	5	2-32,2-33	Adressleitung
A29	IC5	42	2-2,2-3	
A29	TP221	P$1	2-2,2-3	
A30	IC15	7	2-32,2-33	Adressleitung
A30	IC5	43	2-2,2-3	
A30	TP219	P$1	2-2,2-3	
A31	IC15	9	2-32,2-33	Adressleitung
A31	IC5	44	2-2,2-3	
A31	TP220	P$1	2-2,2-3	
AM	D18	1	2-26,2-27	Audio Mute
AM	D19	1	2-26,2-27	Tonabschaltung
AM	R49	1	2-26,2-27	
AM	T9	3	2-26,2-27	
AM	TP80	P$1	2-26,2-27	
AM	TP82	P$1	2-26,2-27	
AUDIO_L	C132	2	2-28,2-29	Audio Ausgang links
AUDIO_L	C193	2	2-28,2-29	
AUDIO_L	C197	2	2-28,2-29	
AUDIO_L	R130	2	2-28,2-29	
AUDIO_L	R139	1	2-28,2-29	
AUDIO_L	R28	2	2-26,2-27	
AUDIO_L	R29	1	2-26,2-27	
AUDIO_L	R94	2	2-28,2-29	
AUDIO_L	T4	3	2-26,2-27	
AUDIO_L	TP380	P$1	2-26,2-27	
AUDIO_R	C131	2	2-28,2-29	Audio Ausgang rechts
AUDIO_R	C191	2	2-28,2-29	
AUDIO_R	C196	2	2-28,2-29	
AUDIO_R	R101	2	2-28,2-29	
AUDIO_R	R104	1	2-28,2-29	
AUDIO_R	R27	2	2-26,2-27	
AUDIO_R	R55	1	2-26,2-27	
AUDIO_R	R93	2	2-28,2-29	
AUDIO_R	T8	3	2-26,2-27	
AUDIO_R	TP379	P$1	2-26,2-27	
A_DA0	IC22	14	2-18,2-19	Adressleitung Festplatte
A_DA0	JP6	35	2-18,2-19	
A_DA0	TP191	P$1	2-18,2-19	
A_DA1	IC22	13	2-18,2-19	Adressleitung Festplatte
A_DA1	JP6	33	2-18,2-19	
A_DA1	TP189	P$1	2-18,2-19	
A_DA2	IC22	16	2-18,2-19	Adressleitung Festplatte
A_DA2	JP6	36	2-18,2-19	
A_DA2	TP190	P$1	2-18,2-19	
A_INTRQ	IC22	30	2-18,2-19	siehe /IOCHRDY
A_INTRQ	JP6	31	2-18,2-19	nach Treiber
A_INTRQ	R7	2	2-18,2-19	
A_IORDY	IC22	37	2-18,2-19	siehe /IORDY
A_IORDY	JP6	27	2-18,2-19	nach Treiber
A_IORDY	RN1	4	2-18,2-19	
A_MUTE	D21	2	2-26,2-27	Tonabschaltung
A_MUTE	IC40	12	2-6,2-7	Steuerleitung
A_MUTE	TP381	P$1	2-26,2-27	
BA0	IC1	202	2-20,2-21	Adressleitung
BA0	IC16	99	2-12,2-13	
BA0	IC17	63	2-32,2-33	
BA0	IC21	12	2-4,2-5	
BA0	RN21	1	2-6,2-7	
BA0	TP233	P$1	2-20,2-21	
BA1	IC1	203	2-20,2-21	Adressleitung
BA1	IC17	65	2-32,2-33	
BA1	IC21	11	2-4,2-5	
BA1	IC22	35	2-18,2-19	
BA1	IC8	38	2-16,2-17	
BA1	RN21	2	2-6,2-7	
BA1	TP375	P$1	2-32,2-33	
BA2	IC1	204	2-20,2-21	Adressleitung
BA2	IC17	66	2-32,2-33	
BA2	IC21	10	2-4,2-5	
BA2	IC22	36	2-18,2-19	
BA2	IC8	39	2-16,2-17	
BA2	RN21	3	2-6,2-7	
BA2	TP374	P$1	2-32,2-33	
BA3	IC17	74	2-32,2-33	Adressleitung
BA3	IC21	9	2-4,2-5	
BA3	IC22	33	2-18,2-19	
BA3	IC8	40	2-16,2-17	
BA3	RN21	4	2-6,2-7	
BA3	TP373	P$1	2-32,2-33	
BA4	IC17	75	2-32,2-33	Adressleitung
BA4	IC21	8	2-4,2-5	
BA4	IC8	41	2-16,2-17	
BA4	RN20	1	2-6,2-7	
BA4	TP372	P$1	2-32,2-33	
BA5	IC17	76	2-32,2-33	Adressleitung
BA5	IC21	7	2-4,2-5	
BA5	IC8	42	2-16,2-17	
BA5	RN20	2	2-6,2-7	
BA5	TP371	P$1	2-32,2-33	
BA6	IC17	77	2-32,2-33	Adressleitung
BA6	IC21	6	2-4,2-5	
BA6	IC8	43	2-16,2-17	
BA6	RN20	3	2-6,2-7	
BA6	TP370	P$1	2-32,2-33	
BA7	IC17	79	2-32,2-33	Adressleitung
BA7	IC21	5	2-4,2-5	
BA7	IC8	44	2-16,2-17	
BA7	RN20	4	2-6,2-7	
BA7	TP383	P$1	2-32,2-33	
BA8	IC17	80	2-32,2-33	Adressleitung
BA8	IC21	27	2-4,2-5	
BA8	IC8	45	2-16,2-17	
BA8	RN19	1	2-6,2-7	
BA8	TP384	P$1	2-32,2-33	
BA9	IC16	98	2-12,2-13	Adressleitung
BA9	IC17	83	2-32,2-33	
BA9	IC21	26	2-4,2-5	
BA9	IC27	32	2-4,2-5	
BA9	IC8	46	2-16,2-17	
BA9	RN19	2	2-6,2-7	
BA9	TP385	P$1	2-32,2-33	
BA10	IC16	97	2-12,2-13	Adressleitung
BA10	IC17	84	2-32,2-33	
BA10	IC21	23	2-4,2-5	
BA10	IC27	31	2-4,2-5	
BA10	IC8	47	2-16,2-17	
BA10	RN19	3	2-6,2-7	
BA10	TP386	P$1	2-32,2-33	
BA11	IC17	85	2-32,2-33	Adressleitung
BA11	IC21	25	2-4,2-5	
BA11	IC27	30	2-4,2-5	
BA11	RN19	4	2-6,2-7	
BA11	TP387	P$1	2-32,2-33	
BA12	IC17	86	2-32,2-33	Adressleitung
BA12	IC21	4	2-4,2-5	
BA12	IC27	29	2-4,2-5	
BA12	RN18	1	2-6,2-7	
BA12	TP388	P$1	2-32,2-33	
BA13	IC17	87	2-32,2-33	Adressleitung
BA13	IC21	28	2-4,2-5	
BA13	IC27	26	2-4,2-5	
BA13	RN18	2	2-6,2-7	
BA13	TP389	P$1	2-32,2-33	
BA14	IC17	93	2-32,2-33	Adressleitung
BA14	IC21	29	2-4,2-5	
BA14	IC27	25	2-4,2-5	
BA14	RN18	3	2-6,2-7	

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BA14	TP390	P$1	2-32,2-33	
BA15	IC17	94	2-32,2-33	Adressleitung
BA15	IC21	3	2-4,2-5	
BA15	IC27	24	2-4,2-5	
BA15	RN18	4	2-6,2-7	
BA15	TP391	P$1	2-32,2-33	
BCLK0	IC30	1	2-6,2-7	Busclock
BCLK0	R48	1	2-2,2-3	
BCLK0	TP394	P$1	2-6,2-7	
BCLK_L	IC16	84	2-12,2-13	Clock
BCLK_L	IC17	37	2-32,2-33	Initialisierung Xilinx
BCLK_L	TP393	P$1	2-32,2-33	
BKPT/TMS	IC5	154	2-8,2-9	Break Point
BKPT/TMS	JP2	2	2-8,2-9	Coldfire Debug Port
BKPT/TMS	RN17	6	2-8,2-9	
CARD_INT	IC16	57	2-12,2-13	Interrupt Kartenleser
CARD_INT	JP1	8	2-36	
CFBS	IC43	3	2-28,2-29	Video FBAS
CFBS	IC43	5	2-28,2-29	
CFBS	L7	2	2-24,2-25	
CFBS	R33	1	2-24,2-25	
CFBS	R61	2	2-24,2-25	
CFBS	TP395	P$1	2-24,2-25	
CFBS_1	L19	1	2-28,2-29	Video Ausgang 1
CFBS_1	R67	1	2-28,2-29	(Scart 1)
CFBS_1	TP397	P$1	2-28,2-29	
CFBS_2	L20	1	2-28,2-29	Video Ausgang 2
CFBS_2	R88	1	2-28,2-29	(Scart 2)
CFBS_2	TP398	P$1	2-28,2-29	
CFBS_3	L12	1	2-28,2-29	Video Ausgang 3
CFBS_3	R19	1	2-28,2-29	(Chinch)
CFBS_3	TP399	P$1	2-28,2-29	
CHROMA	L18	1	2-28,2-29	S-Video Helligkeit
CHROMA	L4	2	2-24,2-25	
CHROMA	R105	2	2-24,2-25	
CHROMA	TP396	P$1	2-24,2-25	
CLK_27M	IC1	177	2-20,2-21	Clock-Signal Audio/Video
CLK_27M	IC1	178	2-20,2-21	
CLK_27M	IC10	5	2-26,2-27	
CLK_27M	IC4	4	2-24,2-25	
CLK_27M	R66	1	2-32,2-33	
CLK_27M	TP392	P$1	2-32,2-33	
D0	IC5	147	2-2,2-3	Datenleitung
D0	RN13	5	2-6,2-7	
D0	TP58	P$1	2-6,2-7	
D1	IC5	146	2-2,2-3	Datenleitung
D1	RN13	6	2-6,2-7	
D1	TP59	P$1	2-6,2-7	
D1_OUT	D12	2	2-30,2-31	DiSEqC-Signal
D1_OUT	IC7	8	2-10,2-11	
D1_OUT	TP400	P$1	2-10,2-11	
D2	IC5	144	2-2,2-3	Datenleitung
D2	RN13	7	2-6,2-7	
D2	TP60	P$1	2-6,2-7	
D3	IC5	143	2-2,2-3	Datenleitung
D3	RN13	8	2-6,2-7	
D3	TP62	P$1	2-6,2-7	
D4	IC5	142	2-2,2-3	Datenleitung
D4	RN14	5	2-6,2-7	
D4	TP63	P$1	2-6,2-7	
D5	IC5	140	2-2,2-3	Datenleitung
D5	RN14	6	2-6,2-7	
D5	TP64	P$1	2-6,2-7	
D6	IC5	139	2-2,2-3	Datenleitung
D6	RN14	7	2-6,2-7	
D6	TP68	P$1	2-6,2-7	
D7	IC5	138	2-2,2-3	Datenleitung
D7	RN14	8	2-6,2-7	
D7	TP76	P$1	2-6,2-7	
D8	IC5	136	2-2,2-3	Datenleitung
D8	TP253	P$1	2-2,2-3	
D9	IC5	135	2-2,2-3	Datenleitung
D9	TP252	P$1	2-2,2-3	
D10	IC5	134	2-2,2-3	Datenleitung
D10	TP251	P$1	2-2,2-3	
D11	IC5	132	2-2,2-3	Datenleitung
D11	TP250	P$1	2-2,2-3	
D12	IC5	131	2-2,2-3	Datenleitung
D12	TP249	P$1	2-2,2-3	
D13	IC5	130	2-2,2-3	Datenleitung
D13	TP248	P$1	2-2,2-3	
D14	IC5	128	2-2,2-3	Datenleitung
D14	TP245	P$1	2-2,2-3	
D15	IC5	127	2-2,2-3	Datenleitung
D15	TP242	P$1	2-2,2-3	
D16	IC17	40	2-32,2-33	Datenleitung
D16	IC41	36	2-18,2-19	
D16	IC5	126	2-2,2-3	
D16	IC8	27	2-16,2-17	
D16	RN28	5	2-4,2-5	
D16	TP414	P$1	2-32,2-33	
D17	IC17	41	2-32,2-33	Datenleitung
D17	IC41	35	2-18,2-19	
D17	IC5	124	2-2,2-3	
D17	IC8	26	2-16,2-17	
D17	RN28	6	2-4,2-5	
D17	TP413	P$1	2-32,2-33	
D18	IC17	43	2-32,2-33	Datenleitung
D18	IC41	33	2-18,2-19	
D18	IC5	123	2-2,2-3	
D18	IC8	25	2-16,2-17	
D18	RN28	7	2-4,2-5	
D18	TP412	P$1	2-32,2-33	
D19	IC17	47	2-32,2-33	Datenleitung
D19	IC41	32	2-18,2-19	
D19	IC5	122	2-2,2-3	
D19	IC8	24	2-16,2-17	
D19	RN28	8	2-4,2-5	
D19	TP411	P$1	2-32,2-33	
D20	IC17	48	2-32,2-33	Datenleitung
D20	IC41	30	2-18,2-19	
D20	IC5	120	2-2,2-3	
D20	IC8	21	2-16,2-17	
D20	RN29	5	2-4,2-5	
D20	TP410	P$1	2-32,2-33	
D21	IC17	50	2-32,2-33	Datenleitung
D21	IC41	29	2-18,2-19	
D21	IC5	119	2-2,2-3	
D21	IC8	20	2-16,2-17	
D21	RN29	6	2-4,2-5	
D21	TP409	P$1	2-32,2-33	
D22	IC17	27	2-32,2-33	Datenleitung
D22	IC41	27	2-18,2-19	
D22	IC5	118	2-2,2-3	
D22	IC8	19	2-16,2-17	
D22	RN29	7	2-4,2-5	
D22	TP416	P$1	2-32,2-33	
D23	IC17	28	2-32,2-33	Datenleitung
D23	IC41	26	2-18,2-19	
D23	IC5	116	2-2,2-3	
D23	IC8	18	2-16,2-17	
D23	RN29	8	2-4,2-5	
D23	TP415	P$1	2-32,2-33	
D24	IC1	180	2-20,2-21	Datenleitung
D24	IC1	2	2-20,2-21	
D24	IC16	3	2-12,2-13	
D24	IC17	39	2-32,2-33	

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D24	IC21	13	2-4,2-5	
D24	IC40	3	2-6,2-7	
D24	IC41	37	2-18,2-19	
D24	IC5	115	2-2,2-3	
D24	IC8	65	2-16,2-17	
D24	RN26	5	2-4,2-5	
D24	TP401	P$1	2-32,2-33	
D25	IC1	182	2-20,2-21	Datenleitung
D25	IC1	3	2-20,2-21	
D25	IC16	5	2-12,2-13	
D25	IC17	44	2-32,2-33	
D25	IC21	14	2-4,2-5	
D25	IC40	4	2-6,2-7	
D25	IC41	38	2-18,2-19	
D25	IC5	114	2-2,2-3	
D25	IC8	66	2-16,2-17	
D25	RN26	6	2-4,2-5	
D25	TP402	P$1	2-32,2-33	
D26	IC1	184	2-20,2-21	Datenleitung
D26	IC1	4	2-20,2-21	
D26	IC16	6	2-12,2-13	
D26	IC17	46	2-32,2-33	
D26	IC21	15	2-4,2-5	
D26	IC40	7	2-6,2-7	
D26	IC41	40	2-18,2-19	
D26	IC5	112	2-2,2-3	
D26	IC8	67	2-16,2-17	
D26	RN26	7	2-4,2-5	
D26	TP403	P$1	2-32,2-33	
D27	IC1	185	2-20,2-21	Datenleitung
D27	IC1	6	2-20,2-21	
D27	IC16	7	2-12,2-13	
D27	IC17	49	2-32,2-33	
D27	IC21	17	2-4,2-5	
D27	IC40	8	2-6,2-7	
D27	IC41	41	2-18,2-19	
D27	IC5	111	2-2,2-3	
D27	IC8	68	2-16,2-17	
D27	RN26	8	2-4,2-5	
D27	TP404	P$1	2-32,2-33	
D28	IC1	186	2-20,2-21	Datenleitung
D28	IC1	8	2-20,2-21	
D28	IC17	57	2-32,2-33	
D28	IC21	18	2-4,2-5	
D28	IC40	13	2-6,2-7	
D28	IC41	43	2-18,2-19	
D28	IC5	110	2-2,2-3	
D28	IC8	71	2-16,2-17	
D28	RN27	5	2-4,2-5	
D28	TP405	P$1	2-32,2-33	
D29	IC1	187	2-20,2-21	Datenleitung
D29	IC1	9	2-20,2-21	
D29	IC17	60	2-32,2-33	
D29	IC21	19	2-4,2-5	
D29	IC40	14	2-6,2-7	
D29	IC41	44	2-18,2-19	
D29	IC5	108	2-2,2-3	
D29	IC8	72	2-16,2-17	
D29	RN27	6	2-4,2-5	
D29	TP406	P$1	2-32,2-33	
D30	IC1	10	2-20,2-21	Datenleitung
D30	IC1	188	2-20,2-21	
D30	IC17	62	2-32,2-33	
D30	IC21	20	2-4,2-5	
D30	IC40	17	2-6,2-7	
D30	IC41	46	2-18,2-19	
D30	IC5	107	2-2,2-3	
D30	IC8	73	2-16,2-17	
D30	RN27	7	2-4,2-5	
D30	TP407	P$1	2-32,2-33	
D31	IC1	11	2-20,2-21	Datenleitung
D31	IC1	189	2-20,2-21	
D31	IC17	67	2-32,2-33	
D31	IC21	21	2-4,2-5	
D31	IC40	18	2-6,2-7	
D31	IC41	47	2-18,2-19	
D31	IC5	106	2-2,2-3	
D31	IC8	74	2-16,2-17	
D31	RN27	8	2-4,2-5	
D31	TP408	P$1	2-32,2-33	

Signal	Bauteil Part	Pin	Seite Page	Beschreibung Description
DA_BCK	IC1	167	2-20,2-21	digital Audio Bit Clock
DA_BCK	IC10	17	2-26,2-27	
DA_BCK	TP417	P$1	2-26,2-27	
DA_DATA	IC1	161	2-20,2-21	digital Audio Daten
DA_DATA	IC10	18	2-26,2-27	
DA_DATA	TP254	P$1	2-26,2-27	
DA_LRCK	IC1	166	2-20,2-21	digital Audio R/L Clock
DA_LRCK	IC10	19	2-26,2-27	
DA_LRCK	TP256	P$1		
DA_XCK	IC1	169	2-20,2-21	digital Audio external
DA_XCK	IC10	21	2-26,2-27	Clock vom Audio Encoder
DA_XCK	TP255	P$1	2-20,2-21	
DDATA0	IC5	186	2-8,2-9	Debug Daten Coldfire
DDATA0	JP2	19	2-8,2-9	
DDATA0	TP203	P$1	2-8,2-9	
DDATA1	IC5	187	2-8,2-9	Debug Daten Coldfire
DDATA1	JP2	18	2-8,2-9	
DDATA1	TP206	P$1	2-8,2-9	
DDATA2	IC5	189	2-8,2-9	Debug Daten Coldfire
DDATA2	JP2	17	2-8,2-9	
DDATA2	TP202	P$1	2-8,2-9	
DDATA3	IC5	190	2-8,2-9	Debug Daten Coldfire
DDATA3	JP2	16	2-8,2-9	
DDATA3	TP207	P$1	2-8,2-9	
DONE	IC16	51	2-12,2-13	Fertigmeldung
DONE	IC17	72	2-32,2-33	Initialisierung Xilinx
DONE	R109	1	2-32,2-33	
DONE	TP326	P$1	2-12,2-13	
DRAMRW	IC27	16	2-4,2-5	Read/Write SPEICHER
DRAMRW	RN7	5	2-4,2-5	
DRAMRW	TP447	P$1	2-4,2-5	
DVB1_POL	D14	1	2-34,2-35	Polarität Tuner (14/18V)
DVB1_POL	D8	1	2-30,2-31	Steuerleitung
DVB1_POL	IC7	17	2-10,2-11	
DVB1_POL	TP452	P$1	2-30,2-31	
DVB2_POL	IC7	18	2-10,2-11	nicht verwendet
DVB2_POL	TP9	P$1	2-10,2-11	ursprünglich für 2. Tuner
DVCC	C39	2	2-10,2-11	Versorgungsspannung
DVCC	C40	2	2-10,2-11	PIC/RTC
DVCC	C46	1	2-10,2-11	
DVCC	C47	2	2-10,2-11	
DVCC	CON7	9	2-36	
DVCC	D3	1	2-10,2-11	
DVCC	IC7	14	2-10,2-11	
DVCC	JP13	3	2-10,2-11	
DVCC	R125	2	2-10,2-11	
DVCC	R126	2	2-10,2-11	
DVCC	R127	2	2-10,2-11	
DVCC	R40	1	2-10,2-11	
DVCC	R63	2	2-10,2-11	
DVCC	R76	1	2-10,2-11	
D_INT	IC40	5	2-6,2-7	Daten von Coldfire
D_INT	IC7	6	über I2C-Bus	
D_INT	TP234	P$1	2-6,2-7	
EDGE_SEL	IC5	168	2-4,2-5	Timing Select
EDGE_SEL	IC5	170	2-2,2-3	Übernahme der Daten
EDGE_SEL	R14	2	2-4,2-5	
EDGE_SEL	R48	2	2-2,2-3	
EDGE_SEL	TP449	P$1	2-2,2-3	
ETH_IRQ	IC16	20	2-12,2-13	Interrupt Ethernet
ETH_IRQ	IC8	35	2-16,2-17	
ETH_IRQ	R117	2	2-16,2-17	
ETH_IRQ	TP346	P$1	2-12,2-13	
F_SELECT	CON6	29	2-28,2-29	Function Select
F_SELECT	CON6	8	2-28,2-29	Scart
F_SELECT	R116	2	2-10,2-11	
F_SELECT	R121	2	2-10,2-11	
GND	C1	1	2-30,2-31	Masse
GND	C10	1	2-22,2-23	

Signal	Bauteil Part	Pin	Seite Page	Beschreibung Description
GND	C100	1	2-16,2-17	
GND	C102	1	2-12,2-13	
GND	C103	1	2-16,2-17	
GND	C104	1	2-12,2-13	
GND	C108	1	2-14,2-15	
GND	C109	1	2-8,2-9	
GND	C11	1	2-8,2-9	
GND	C110	1	2-18,2-19	
GND	C111	1	2-18,2-19	
GND	C112	2	2-36	
GND	C113	2	2-36	
GND	C114	2	2-36	
GND	C115	1	2-20,2-21	
GND	C116	2	2-30,2-31	
GND	C117	1	2-32,2-33	
GND	C118	1	2-4,2-5	
GND	C119	1	2-34,2-35	
GND	C12	1	2-22,2-23	
GND	C120	2	2-24,2-25	
GND	C121	2	2-2,2-3	
GND	C122	2	2-4,2-5	
GND	C123	1	2-34,2-35	
GND	C124	1	2-6,2-7	
GND	C125	1	2-26,2-27	
GND	C126	2	2-16,2-17	
GND	C127	1	2-2,2-3	
GND	C128	1	2-14,2-15	
GND	C129	1	2-20,2-21	
GND	C13	1	2-22,2-23	
GND	C130	2	2-32,2-33	
GND	C131	1	2-28,2-29	
GND	C132	1	2-28,2-29	
GND	C133	1	2-18,2-19	
GND	C134	2	2-16,2-17	
GND	C135	2	2-16,2-17	
GND	C136	1	2-6,2-7	
GND	C137	1	2-30,2-31	
GND	C138	1	2-30,2-31	
GND	C139	1	2-30,2-31	
GND	C14	1	2-22,2-23	
GND	C140	2	2-8,2-9	
GND	C141	2	2-8,2-9	
GND	C142	1	2-24,2-25	
GND	C143	1	2-24,2-25	
GND	C144	1	2-24,2-25	
GND	C145	1	2-24,2-25	
GND	C146	1	2-24,2-25	
GND	C147	1	2-24,2-25	
GND	C15	1	2-22,2-23	
GND	C155	2	2-34,2-35	
GND	C156	1	2-32,2-33	
GND	C159	1	2-20,2-21	
GND	C16	1	2-22,2-23	
GND	C160	1	2-26,2-27	
GND	C161	1	2-34,2-35	
GND	C163	2	2-26,2-27	
GND	C164	1	2-10,2-11	
GND	C166	1	2-10,2-11	
GND	C167	2	2-2,2-3	
GND	C168	1	2-10,2-11	
GND	C169	2	2-20,2-21	
GND	C17	1	2-22,2-23	
GND	C170	1	2-32,2-33	
GND	C171	1	2-32,2-33	
GND	C172	1	2-30,2-31	
GND	C173	1	2-32,2-33	
GND	C174	1	2-32,2-33	
GND	C175	1	2-32,2-33	
GND	C176	1	2-34,2-35	
GND	C177	1	2-20,2-21	
GND	C18	2	2-24,2-25	
GND	C181	2	2-20,2-21	
GND	C182	1	2-20,2-21	
GND	C183	1	2-20,2-21	
GND	C184	2	2-30,2-31	
GND	C185	1	2-30,2-31	
GND	C186	1	2-34,2-35	
GND	C188	1	2-34,2-35	
GND	C189	1	2-34,2-35	
GND	C19	1	2-28,2-29	
GND	C190	1	2-28,2-29	
GND	C191	1	2-28,2-29	
GND	C192	2	2-10,2-11	
GND	C193	1	2-28,2-29	
GND	C194	1	2-28,2-29	
GND	C195	1	2-28,2-29	
GND	C196	1	2-28,2-29	
GND	C197	1	2-28,2-29	
GND	C198	1	2-28,2-29	
GND	C20	1	2-22,2-23	
GND	C21	1	2-2,2-3	
GND	C214	1	2-28,2-29	
GND	C22	1	2-2,2-3	
GND	C225	2	2-34,2-35	
GND	C227	2	2-34,2-35	
GND	C23	1	2-2,2-3	
GND	C230	2	2-34,2-35	
GND	C24	1	2-2,2-3	
GND	C25	1	2-2,2-3	
GND	C253	2	2-34,2-35	
GND	C254	2	2-34,2-35	
GND	C26	1	2-2,2-3	
GND	C27	1	2-2,2-3	
GND	C28	1	2-2,2-3	
GND	C29	1	2-2,2-3	
GND	C3	1	2-26,2-27	
GND	C30	1	2-24,2-25	
GND	C31	1	2-24,2-25	
GND	C32	1	2-24,2-25	
GND	C33	1	2-26,2-27	
GND	C34	2	2-26,2-27	
GND	C35	2	2-30,2-31	
GND	C36	1	2-30,2-31	
GND	C37	1	2-10,2-11	
GND	C38	1	2-12,2-13	
GND	C39	1	2-10,2-11	
GND	C4	1	2-26,2-27	
GND	C40	1	2-10,2-11	
GND	C41	1	2-24,2-25	
GND	C42	1	2-24,2-25	
GND	C43	1	2-24,2-25	
GND	C44	1	2-24,2-25	
GND	C45	1	2-16,2-17	
GND	C46	2	2-10,2-11	
GND	C47	1	2-10,2-11	
GND	C48	1	2-26,2-27	
GND	C49	1	2-30,2-31	
GND	C5	2	2-26,2-27	
GND	C50	1	2-26,2-27	
GND	C51	1	2-26,2-27	
GND	C52	2	2-26,2-27	
GND	C53	2	2-26,2-27	
GND	C54	1	2-2,2-3	
GND	C55	1	2-16,2-17	
GND	C56	1	2-30,2-31	
GND	C57	1	2-16,2-17	
GND	C58	1	2-18,2-19	
GND	C59	2	2-20,2-21	
GND	C6	2	2-22,2-23	
GND	C61	1	2-16,2-17	
GND	C62	1	2-20,2-21	
GND	C65	1	2-20,2-21	
GND	C66	1	2-18,2-19	
GND	C67	1	2-20,2-21	
GND	C68	1	2-20,2-21	
GND	C69	1	2-20,2-21	
GND	C7	2	2-20,2-21	
GND	C70	1	2-20,2-21	
GND	C71	1	2-20,2-21	
GND	C72	1	2-20,2-21	
GND	C73	1	2-20,2-21	
GND	C74	1	2-20,2-21	
GND	C75	1	2-20,2-21	
GND	C76	1	2-20,2-21	
GND	C77	1	2-2,2-3	
GND	C78	1	2-16,2-17	
GND	C79	2	2-16,2-17	
GND	C8	1	2-20,2-21	
GND	C80	1	2-6,2-7	
GND	C81	1	2-6,2-7	
GND	C82	1	2-6,2-7	
GND	C83	1	2-6,2-7	
GND	C84	2	2-30,2-31	
GND	C85	1	2-18,2-19	
GND	C86	2	2-34,2-35	
GND	C87	2	2-34,2-35	
GND	C88	2	2-34,2-35	
GND	C89	1	2-8,2-9	
GND	C9	1	2-22,2-23	
GND	C90	1	2-30,2-31	
GND	C91	1	2-8,2-9	
GND	C92	2	2-4,2-5	
GND	C93	1	2-4,2-5	
GND	C94	1	2-4,2-5	

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GND	C95	1	2-4,2-5	
GND	C96	1	2-4,2-5	
GND	C97	1	2-4,2-5	
GND	C98	1	2-4,2-5	
GND	C99	1	2-26,2-27	
GND	CON1	2	2-28,2-29	
GND	CON2	2	2-28,2-29	
GND	CON3	P$1	2-16,2-17	
GND	CON3	P$2	2-16,2-17	
GND	CON4	2	2-28,2-29	
GND	CON5	1	2-28,2-29	
GND	CON5	2	2-28,2-29	
GND	CON5	S1	2-28,2-29	
GND	CON5	S2	2-28,2-29	
GND	CON5	S3	2-28,2-29	
GND	CON6	13	2-28,2-29	
GND	CON6	14	2-28,2-29	
GND	CON6	17	2-28,2-29	
GND	CON6	18	2-28,2-29	
GND	CON6	21	2-28,2-29	
GND	CON6	25	2-28,2-29	
GND	CON6	26	2-28,2-29	
GND	CON6	30	2-28,2-29	
GND	CON6	34	2-28,2-29	
GND	CON6	35	2-28,2-29	
GND	CON6	38	2-28,2-29	
GND	CON6	39	2-28,2-29	
GND	CON6	4	2-28,2-29	
GND	CON6	42	2-28,2-29	
GND	CON6	5	2-28,2-29	
GND	CON6	9	2-28,2-29	
GND	CON7	13	2-36	
GND	CON7	15	2-36	
GND	CON7	16	2-36	
GND	CON7	17	2-36	
GND	CON7	3	2-36	
GND	CON7	5	2-36	
GND	CON7	7	2-36	
GND	CON8	10	2-14,2-15	
GND	CON8	11	2-14,2-15	
GND	CON8	5	2-14,2-15	
GND	IC1	103	2-20,2-21	
GND	IC1	109	2-20,2-21	
GND	IC1	115	2-20,2-21	
GND	IC1	119	2-20,2-21	
GND	IC1	125	2-20,2-21	
GND	IC1	136	2-20,2-21	
GND	IC1	14	2-20,2-21	
GND	IC1	146	2-20,2-21	
GND	IC1	151	2-20,2-21	
GND	IC1	162	2-20,2-21	
GND	IC1	170	2-20,2-21	
GND	IC1	179	2-20,2-21	
GND	IC1	183	2-20,2-21	
GND	IC1	19	2-20,2-21	
GND	IC1	195	2-20,2-21	
GND	IC1	199	2-20,2-21	
GND	IC1	29	2-20,2-21	
GND	IC1	38	2-20,2-21	
GND	IC1	42	2-20,2-21	
GND	IC1	49	2-20,2-21	
GND	IC1	57	2-20,2-21	
GND	IC1	63	2-20,2-21	
GND	IC1	67	2-20,2-21	
GND	IC1	7	2-20,2-21	
GND	IC1	71	2-20,2-21	
GND	IC1	77	2-20,2-21	
GND	IC1	83	2-20,2-21	
GND	IC1	89	2-20,2-21	
GND	IC1	93	2-20,2-21	
GND	IC1	97	2-20,2-21	
GND	IC10	12	2-26,2-27	
GND	IC10	2	2-26,2-27	
GND	IC10	23	2-26,2-27	
GND	IC10	6	2-26,2-27	
GND	IC10	7	2-26,2-27	
GND	IC12	2	2-26,2-27	
GND	IC12	3	2-26,2-27	
GND	IC12	6	2-26,2-27	
GND	IC12	7	2-26,2-27	
GND	IC13	1	2-8,2-9	
GND	IC13	4	2-8,2-9	
GND	IC14	1	2-8,2-9	
GND	IC14	4	2-8,2-9	
GND	IC15	10	2-32,2-33	
GND	IC15	11	2-32,2-33	
GND	IC15	13	2-32,2-33	
GND	IC15	15	2-32,2-33	
GND	IC15	17	2-32,2-33	
GND	IC15	2	2-32,2-33	
GND	IC15	4	2-32,2-33	
GND	IC15	6	2-32,2-33	
GND	IC15	8	2-32,2-33	
GND	IC16	14	2-12,2-13	
GND	IC16	39	2-12,2-13	
GND	IC16	61	2-12,2-13	
GND	IC16	86	2-12,2-13	
GND	IC17	110	2-32,2-33	
GND	IC17	119	2-32,2-33	
GND	IC17	128	2-32,2-33	
GND	IC17	135	2-32,2-33	
GND	IC17	143	2-32,2-33	
GND	IC17	17	2-32,2-33	
GND	IC17	25	2-32,2-33	
GND	IC17	33	2-32,2-33	
GND	IC17	45	2-32,2-33	
GND	IC17	52	2-32,2-33	
GND	IC17	61	2-32,2-33	
GND	IC17	73	2-32,2-33	
GND	IC17	8	2-32,2-33	
GND	IC17	81	2-32,2-33	
GND	IC17	89	2-32,2-33	
GND	IC17	98	2-32,2-33	
GND	IC18	15	2-14,2-15	
GND	IC19	4	2-34,2-35	
GND	IC19	5	2-34,2-35	
GND	IC19	7	2-34,2-35	
GND	IC2	10	2-22,2-23	
GND	IC2	26	2-22,2-23	
GND	IC2	4	2-22,2-23	
GND	IC2	41	2-22,2-23	
GND	IC2	47	2-22,2-23	
GND	IC2	50	2-22,2-23	
GND	IC20	10	2-6,2-7	
GND	IC20	15	2-6,2-7	
GND	IC20	21	2-6,2-7	
GND	IC20	28	2-6,2-7	
GND	IC20	34	2-6,2-7	
GND	IC20	39	2-6,2-7	
GND	IC20	4	2-6,2-7	
GND	IC20	45	2-6,2-7	
GND	IC21	16	2-4,2-5	
GND	IC22	10	2-18,2-19	
GND	IC22	15	2-18,2-19	
GND	IC22	21	2-18,2-19	
GND	IC22	26	2-18,2-19	
GND	IC22	28	2-18,2-19	
GND	IC22	32	2-18,2-19	
GND	IC22	34	2-18,2-19	
GND	IC22	38	2-18,2-19	
GND	IC22	39	2-18,2-19	
GND	IC22	4	2-18,2-19	
GND	IC22	41	2-18,2-19	
GND	IC22	43	2-18,2-19	
GND	IC22	45	2-18,2-19	
GND	IC23	2	2-34,2-35	
GND	IC23	3	2-34,2-35	
GND	IC23	6	2-34,2-35	
GND	IC23	7	2-34,2-35	
GND	IC24	35	2-30,2-31	
GND	IC24	36	2-30,2-31	
GND	IC24	37	2-30,2-31	
GND	IC24	38	2-30,2-31	
GND	IC24	9	2-30,2-31	
GND	IC25	1	2-30,2-31	
GND	IC25	16	2-30,2-31	
GND	IC25	31	2-30,2-31	
GND	IC25	32	2-30,2-31	
GND	IC25	33	2-30,2-31	
GND	IC25	34	2-30,2-31	
GND	IC25	4	2-30,2-31	
GND	IC25	7	2-30,2-31	
GND	IC25	9	2-30,2-31	
GND	IC27	12	2-4,2-5	
GND	IC27	28	2-4,2-5	
GND	IC27	41	2-4,2-5	
GND	IC27	46	2-4,2-5	
GND	IC27	52	2-4,2-5	
GND	IC27	54	2-4,2-5	
GND	IC27	6	2-4,2-5	
GND	IC28	15	2-14,2-15	
GND	IC29	2	2-30,2-31	
GND	IC29	3	2-30,2-31	
GND	IC29	6	2-30,2-31	

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GND	IC29	7	2-30,2-31	
GND	IC3	5	2-20,2-21	
GND	IC30	4	2-6,2-7	
GND	IC31	4	2-10,2-11	
GND	IC37	4	2-34,2-35	
GND	IC4	18	2-24,2-25	
GND	IC4	32	2-24,2-25	
GND	IC4	33	2-24,2-25	
GND	IC4	38	2-24,2-25	
GND	IC4	5	2-24,2-25	
GND	IC40	10	2-6,2-7	
GND	IC41	10	2-18,2-19	
GND	IC41	15	2-18,2-19	
GND	IC41	21	2-18,2-19	
GND	IC41	28	2-18,2-19	
GND	IC41	34	2-18,2-19	
GND	IC41	39	2-18,2-19	
GND	IC41	4	2-18,2-19	
GND	IC41	45	2-18,2-19	
GND	IC42	4	2-26,2-27	
GND	IC43	4	2-28,2-29	
GND	IC5	10	2-2,2-3	
GND	IC5	101	2-2,2-3	
GND	IC5	104	2-2,2-3	
GND	IC5	109	2-2,2-3	
GND	IC5	117	2-2,2-3	
GND	IC5	125	2-2,2-3	
GND	IC5	133	2-2,2-3	
GND	IC5	141	2-2,2-3	
GND	IC5	148	2-2,2-3	
GND	IC5	156	2-2,2-3	
GND	IC5	162	2-2,2-3	
GND	IC5	169	2-2,2-3	
GND	IC5	17	2-2,2-3	
GND	IC5	173	2-2,2-3	
GND	IC5	178	2-2,2-3	
GND	IC5	183	2-2,2-3	
GND	IC5	188	2-2,2-3	
GND	IC5	194	2-2,2-3	
GND	IC5	201	2-2,2-3	
GND	IC5	208	2-2,2-3	
GND	IC5	25	2-2,2-3	
GND	IC5	33	2-2,2-3	
GND	IC5	4	2-2,2-3	
GND	IC5	41	2-2,2-3	
GND	IC5	48	2-2,2-3	
GND	IC5	53	2-2,2-3	
GND	IC5	61	2-2,2-3	
GND	IC5	69	2-2,2-3	
GND	IC5	77	2-2,2-3	
GND	IC5	85	2-2,2-3	
GND	IC5	93	2-2,2-3	
GND	IC6	1	2-26,2-27	
GND	IC7	5	2-10,2-11	
GND	IC8	1	2-16,2-17	
GND	IC8	10	2-16,2-17	
GND	IC8	23	2-16,2-17	
GND	IC8	55	2-16,2-17	
GND	IC8	57	2-16,2-17	
GND	IC8	70	2-16,2-17	
GND	IC8	8	2-16,2-17	
GND	IC8	86	2-16,2-17	
GND	IC8	89	2-16,2-17	
GND	IC8	94	2-16,2-17	
GND	IC8	96	2-16,2-17	
GND	IC9	10	2-22,2-23	
GND	IC9	26	2-22,2-23	
GND	IC9	4	2-22,2-23	
GND	IC9	41	2-22,2-23	
GND	IC9	47	2-22,2-23	
GND	IC9	50	2-22,2-23	
GND	JP1	11	2-36	
GND	JP1	13	2-36	
GND	JP1	3	2-36	
GND	JP13	10	2-10,2-11	
GND	JP13	2	2-10,2-11	
GND	JP2	11	2-8,2-9	
GND	JP2	20	2-8,2-9	
GND	JP2	23	2-8,2-9	
GND	JP2	3	2-8,2-9	
GND	JP2	5	2-8,2-9	
GND	JP3	11	2-14,2-15	
GND	JP3	13	2-14,2-15	
GND	JP3	15	2-14,2-15	
GND	JP3	9	2-14,2-15	
GND	JP5	7	2-12,2-13	
GND	JP6	19	2-18,2-19	
GND	JP6	2	2-18,2-19	
GND	JP6	22	2-18,2-19	
GND	JP6	24	2-18,2-19	
GND	JP6	26	2-18,2-19	
GND	JP6	30	2-18,2-19	
GND	JP6	40	2-18,2-19	
GND	JP7	2	2-10,2-11	
GND	L10	3	2-28,2-29	
GND	L12	3	2-28,2-29	
GND	L17	3	2-28,2-29	
GND	L18	3	2-28,2-29	
GND	L19	3	2-28,2-29	
GND	L20	3	2-28,2-29	
GND	L21	3	2-28,2-29	
GND	L22	3	2-28,2-29	
GND	L23	3	2-28,2-29	
GND	L24	3	2-28,2-29	
GND	L6	3	2-28,2-29	
GND	Q6	2	2-2,2-3	
GND	R102	1	2-20,2-21	
GND	R106	1	2-32,2-33	
GND	R114	1	2-16,2-17	
GND	R117	1	2-16,2-17	
GND	R120	2	2-16,2-17	
GND	R123	1	2-26,2-27	
GND	R128	1	2-10,2-11	
GND	R129	2	2-34,2-35	
GND	R136	1	2-4,2-5	
GND	R15	1	2-8,2-9	
GND	R20	1	2-34,2-35	
GND	R27	1	2-26,2-27	
GND	R28	1	2-26,2-27	
GND	R3	1	2-16,2-17	
GND	R33	2	2-24,2-25	
GND	R35	2	2-28,2-29	
GND	R39	1	2-34,2-35	
GND	R43	2	2-26,2-27	
GND	R57	1	2-6,2-7	
GND	R58	2	2-28,2-29	
GND	R68	1	2-16,2-17	
GND	R69	1	2-20,2-21	
GND	R7	1	2-18,2-19	
GND	R71	1	2-24,2-25	
GND	R73	2	2-24,2-25	
GND	R74	1	2-36	
GND	R81	1	2-10,2-11	
GND	R87	1	2-34,2-35	
GND	R89	1	2-18,2-19	
GND	R9	1	2-8,2-9	
GND	R91	1	2-18,2-19	
GND	R92	2	2-34,2-35	
GND	R96	1	2-30,2-31	
GND	R98	1	2-36	
GND	RN10	1	2-2,2-3	
GND	RN10	2	2-2,2-3	
GND	RN10	3	2-2,2-3	
GND	RN10	4	2-2,2-3	
GND	RN13	2	2-6,2-7	
GND	RN13	4	2-6,2-7	
GND	RN14	2	2-6,2-7	
GND	RN14	4	2-6,2-7	
GND	RN16	7	2-2,2-3	
GND	RN30	2	2-20,2-21	
GND	RN30	3	2-20,2-21	
GND	S1	2	2-8,2-9	
GND	S1	3	2-8,2-9	
GND	S1	4	2-8,2-9	
GND	T1	1	2-34,2-35	
GND	T1	2	2-34,2-35	
GND	T1	3	2-34,2-35	
GND	T12	1	2-10,2-11	
GND	T13	1	2-10,2-11	
GND	T14	1	2-10,2-11	
GND	T2	1	2-10,2-11	
GND	T3	1	2-30,2-31	
GND	T4	1	2-26,2-27	
GND	T6	1	2-30,2-31	
GND	T7	1	2-30,2-31	
GND	T8	1	2-26,2-27	
GND	T9	1	2-26,2-27	
IEC958	IC1	159	2-20,2-21	digital Audio Ausgang
IEC958	IC6	4	2-26,2-27	
IR-IN	IC7	7	2-10,2-11	Fernbedienung Eingang
IR-IN	JP13	5	2-10,2-11	

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IRDL	IC7	9	2-10,2-11	IR Downlink über Scart
IRDL	R127	1	2-10,2-11	
IRDL	T14	3	2-10,2-11	
IRDL	TP450	P$1	2-10,2-11	
IRQ_IDE1	IC16	73	2-12,2-13	Interrupt Festplatte
IRQ_IDE1	IC22	19	2-18,2-19	
IRQ_IDE1	TP352	P$1	2-12,2-13	
L	CON2	1	2-28,2-29	Audio Ausgang Links
L	L10	2	2-28,2-29	
L	TP78	P$1	2-28,2-29	
LDQM	IC1	79	2-22,2-23	Data I/O Mask
LDQM	IC2	14	2-22,2-23	Avia SPEICHER
LDQM	IC9	14	2-22,2-23	
LDQM	TP418	P$1	2-22,2-23	
LNBA	C36	2	2-30,2-31	Tuner Ausgang
LNBA	D11	2	2-30,2-31	
LNBA	D22	2	2-30,2-31	
LNBA	IC24	5	2-30,2-31	
LNB_LOW	D25	1	2-34,2-35	Steuerspannung 14/18V
LNB_LOW	D4	1	2-34,2-35	Tuner
LNB_LOW	R131	2	2-34,2-35	
LNB_LOW	TP453	P$1	2-34,2-35	
LNB_SC	D7	1	2-34,2-35	Kurzschluss Tuner erkannt
LNB_SC	D9	1	2-30,2-31	
LNB_SC	IC16	68	2-12,2-13	
LNB_SC	R95	2	2-30,2-31	
LNB_SC	T7	3	2-30,2-31	
LNB_SC	TP451	P$1	2-30,2-31	
L_BCLK	IC16	10	2-12,2-13	Busclock
L_BCLK	R134	2	2-6,2-7	
L_BCLK	TP542	P$1	2-6,2-7	
L_NC1	IC16	85	2-12,2-13	nicht verwendet
L_NC1	TP41	P$1	2-12,2-13	
MA0	IC1	104	2-22,2-23	Speicheradresse Avia
MA0	IC2	21	2-22,2-23	
MA0	IC9	21	2-22,2-23	
MA0	TP419	P$1	2-22,2-23	
MA1	IC1	106	2-22,2-23	Speicheradresse Avia
MA1	IC2	22	2-22,2-23	
MA1	IC9	22	2-22,2-23	
MA1	TP420	P$1	2-22,2-23	
MA2	IC1	110	2-22,2-23	Speicheradresse Avia
MA2	IC2	23	2-22,2-23	
MA2	IC9	23	2-22,2-23	
MA2	TP421	P$1	2-22,2-23	
MA3	IC1	112	2-22,2-23	Speicheradresse Avia
MA3	IC2	24	2-22,2-23	
MA3	IC9	24	2-22,2-23	
MA3	TP422	P$1	2-22,2-23	
MA4	IC1	111	2-22,2-23	Speicheradresse Avia
MA4	IC2	27	2-22,2-23	
MA4	IC9	27	2-22,2-23	
MA4	TP423	P$1	2-22,2-23	
MA5	IC1	108	2-22,2-23	Speicheradresse Avia
MA5	IC2	28	2-22,2-23	
MA5	IC9	28	2-22,2-23	
MA5	TP424	P$1	2-22,2-23	
MA6	IC1	105	2-22,2-23	Speicheradresse Avia
MA6	IC2	29	2-22,2-23	
MA6	IC9	29	2-22,2-23	
MA6	TP425	P$1	2-22,2-23	
MA7	IC1	102	2-22,2-23	Speicheradresse Avia
MA7	IC2	30	2-22,2-23	
MA7	IC9	30	2-22,2-23	
MA7	TP426	P$1	2-22,2-23	
MA8	IC1	99	2-22,2-23	Speicheradresse Avia
MA8	IC2	31	2-22,2-23	
MA8	IC9	31	2-22,2-23	
MA8	TP427	P$1	2-22,2-23	
MA9	IC1	96	2-22,2-23	Speicheradresse Avia
MA9	IC2	32	2-22,2-23	
MA9	IC9	32	2-22,2-23	
MA9	TP428	P$1	2-22,2-23	
MA10	IC1	100	2-22,2-23	Speicheradresse Avia
MA10	IC2	20	2-22,2-23	
MA10	IC9	20	2-22,2-23	
MA10	TP429	P$1	2-22,2-23	
MA11	IC1	98	2-22,2-23	Speicheradresse Avia
MA11	IC2	19	2-22,2-23	
MA11	IC9	19	2-22,2-23	
MA11	TP430	P$1	2-22,2-23	
MBUS+5V	C189	2	2-34,2-35	Pullup Spannung MBUS
MBUS+5V	IC23	1	2-34,2-35	
MBUS+5V	IC25	15	2-30,2-31	
MBUS+5V	RN2	1	2-34,2-35	
MCF_LED1	IC40	16	2-6,2-7	LED Grün Coldfire
MCF_LED1	JP13	4	2-10,2-11	
MCF_LED2	IC40	19	2-6,2-7	LED Rot Coldfire
MCF_LED2	JP13	6	2-10,2-11	
MD0	IC1	54	2-22,2-23	Daten Avia Speicher
MD0	IC2	2	2-22,2-23	
MD0	IC9	2	2-22,2-23	
MD0	TP431	P$1	2-22,2-23	
MD1	IC1	58	2-22,2-23	Daten Avia Speicher
MD1	IC2	3	2-22,2-23	
MD1	IC9	3	2-22,2-23	
MD1	TP432	P$1	2-22,2-23	
MD2	IC1	60	2-22,2-23	Daten Avia Speicher
MD2	IC2	5	2-22,2-23	
MD2	IC9	5	2-22,2-23	
MD2	TP433	P$1	2-22,2-23	
MD3	IC1	64	2-22,2-23	Daten Avia Speicher
MD3	IC2	6	2-22,2-23	
MD3	IC9	6	2-22,2-23	
MD3	TP434	P$1	2-22,2-23	
MD4	IC1	68	2-22,2-23	Daten Avia Speicher
MD4	IC2	8	2-22,2-23	
MD4	IC9	8	2-22,2-23	
MD4	TP435	P$1	2-22,2-23	
MD5	IC1	72	2-22,2-23	Daten Avia Speicher
MD5	IC2	9	2-22,2-23	
MD5	IC9	9	2-22,2-23	
MD5	TP436	P$1	2-22,2-23	
MD6	IC1	74	2-22,2-23	Daten Avia Speicher
MD6	IC2	11	2-22,2-23	
MD6	IC9	11	2-22,2-23	
MD6	TP437	P$1	2-22,2-23	
MD7	IC1	78	2-22,2-23	Daten Avia Speicher
MD7	IC2	12	2-22,2-23	
MD7	IC9	12	2-22,2-23	
MD7	TP438	P$1	2-22,2-23	
MD8	IC1	76	2-22,2-23	Daten Avia Speicher
MD8	IC2	39	2-22,2-23	
MD8	IC9	39	2-22,2-23	
MD8	TP439	P$1	2-22,2-23	
MD9	IC1	73	2-22,2-23	Daten Avia Speicher
MD9	IC2	40	2-22,2-23	
MD9	IC9	40	2-22,2-23	
MD9	TP440	P$1	2-22,2-23	
MD10	IC1	70	2-22,2-23	Daten Avia Speicher
MD10	IC2	42	2-22,2-23	
MD10	IC9	42	2-22,2-23	
MD10	TP441	P$1	2-22,2-23	
MD11	IC1	66	2-22,2-23	Daten Avia Speicher
MD11	IC2	43	2-22,2-23	
MD11	IC9	43	2-22,2-23	
MD11	TP442	P$1	2-22,2-23	
MD12	IC1	62	2-22,2-23	Daten Avia Speicher

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MD12	IC2	45	2-22,2-23	
MD12	IC9	45	2-22,2-23	
MD12	TP443	P$1	2-22,2-23	
MD13	IC1	59	2-22,2-23	Daten Avia Speicher
MD13	IC2	46	2-22,2-23	
MD13	IC9	46	2-22,2-23	
MD13	TP444	P$1	2-22,2-23	
MD14	IC1	56	2-22,2-23	Daten Avia Speicher
MD14	IC2	48	2-22,2-23	
MD14	IC9	48	2-22,2-23	
MD14	TP445	P$1	2-22,2-23	
MD15	IC1	53	2-22,2-23	Daten Avia Speicher
MD15	IC2	49	2-22,2-23	
MD15	IC9	49	2-22,2-23	
MD15	TP446	P$1	2-22,2-23	
O_CLKOUT	IC17	15	2-32,2-33	Transport Stream
O_CLKOUT	IC24	33	2-30,2-31	Byte Clock
O_CLKOUT	IC25	26	2-30,2-31	
O_D/P	IC17	5	2-32,2-33	Output Data Tuner
O_D/P	IC24	21	2-30,2-31	
O_D/P	IC25	27	2-30,2-31	
O_D0	IC17	21	2-32,2-33	Datenleitung Tuner
O_D0	IC24	25	2-30,2-31	
O_D0	IC25	18	2-30,2-31	
O_D1	IC17	20	2-32,2-33	Datenleitung Tuner
O_D1	IC24	26	2-30,2-31	
O_D1	IC25	19	2-30,2-31	
O_D2	IC17	19	2-32,2-33	Datenleitung Tuner
O_D2	IC24	27	2-30,2-31	
O_D2	IC25	20	2-30,2-31	
O_D3	IC17	12	2-32,2-33	Datenleitung Tuner
O_D3	IC24	28	2-30,2-31	
O_D3	IC25	21	2-30,2-31	
O_D4	IC17	11	2-32,2-33	Datenleitung Tuner
O_D4	IC24	29	2-30,2-31	
O_D4	IC25	22	2-30,2-31	
O_D5	IC17	10	2-32,2-33	Datenleitung Tuner
O_D5	IC24	30	2-30,2-31	
O_D5	IC25	23	2-30,2-31	
O_D6	IC17	7	2-32,2-33	Datenleitung Tuner
O_D6	IC24	31	2-30,2-31	
O_D6	IC25	24	2-30,2-31	
O_D7	IC17	6	2-32,2-33	Datenleitung Tuner
O_D7	IC24	32	2-30,2-31	
O_D7	IC25	25	2-30,2-31	
O_ERROR	IC17	3	2-32,2-33	Error detected Tuner
O_ERROR	IC24	22	2-30,2-31	
O_ERROR	IC25	29	2-30,2-31	
O_STROUT	IC17	4	2-32,2-33	Synchronisation Byte
O_STROUT	IC24	20	2-30,2-31	Signal Tuner
O_STROUT	IC25	28	2-30,2-31	
PIC_LED1	IC7	12	2-10,2-11	Standby LED
PIC_LED1	JP13	7	2-10,2-11	
PIC_LED1	TP212	P$1	2-10,2-11	
POWER_ON	CON7	14	2-36	Power On ATX Netzteil
POWER_ON	IC7	11	2-10,2-11	
POWER_ON	JP7	1	2-10,2-11	
PP0	IC5	207	2-2,2-3	Paralleler Ausgang
PP0	JP1	2	2-36	Coldfire für Smartcard
PP0	TP197	P$1	2-2,2-3	
PP1	IC5	206	2-2,2-3	siehe PP0
PP1	JP1	4	2-36	
PP1	TP198	P$1	2-2,2-3	
PP2	IC5	204	2-2,2-3	siehe PP0
PP2	JP1	6	2-36	
PP2	TP199	P$1	2-2,2-3	
PST0	IC5	192	2-8,2-9	Prozessor Status
PST0	JP2	15	2-8,2-9	
PST0	TP201	P$1	2-8,2-9	
PST1	IC5	193	2-8,2-9	Prozessor Status
PST1	JP2	14	2-8,2-9	
PST1	TP205	P$1	2-8,2-9	
PST2	IC5	195	2-8,2-9	Prozessor Status
PST2	JP2	13	2-8,2-9	
PST2	TP200	P$1	2-8,2-9	
PST3	IC5	196	2-8,2-9	Prozessor Status
PST3	JP2	12	2-8,2-9	
PST3	TP204	P$1	2-8,2-9	
PST_CLK	JP2	24	2-8,2-9	Prozessor Clock
PST_CLK	R47	1	2-2,2-3	
R	CON1	1	2-28,2-29	Audio Ausgang rechts
R	L6	2	2-28,2-29	am Stecker
R	TP84	P$1	2-28,2-29	
R+	CON3	3	2-16,2-17	Receive Daten +
R+	L2	14	2-16,2-17	Ethernet
R-	CON3	6	2-16,2-17	Receive Daten -
R-	L2	16	2-16,2-17	Ethernet
R/W	IC1	207	2-20,2-21	Read/Write Datenbus
R/W	IC16	32	2-12,2-13	
R/W	IC17	56	2-32,2-33	
R/W	IC5	63	2-2,2-3	
R/W	RN9	7	2-2,2-3	
R/W	TP528	P$1	2-20,2-21	
RST	IC16	8	2-12,2-13	Reset
RST	IC8	75	2-16,2-17	
RST	TP350	P$1	2-12,2-13	
RXD+	IC8	91	2-16,2-17	Receive Daten +
RXD+	L2	3	2-16,2-17	Ethernet
RXD+	R97	1	2-16,2-17	
RXD+	TP114	P$1	2-16,2-17	
RXD-	IC8	92	2-16,2-17	Receive Daten -
RXD-	L2	1	2-16,2-17	Ethernet
RXD-	R97	2	2-16,2-17	
RXD-	TP112	P$1	2-16,2-17	
SCKE	IC27	37	2-4,2-5	Synchron DRAM Clock
SCKE	RN7	8	2-4,2-5	enable
SCKE	TP531	P$1	2-4,2-5	
SCL	IC10	8	2-26,2-27	Clock I2C-Bus
SCL	IC24	17	2-30,2-31	
SCL	IC25	12	2-30,2-31	
SCL	IC31	2	2-10,2-11	
SCL	IC4	41	2-24,2-25	
SCL	IC5	102	2-2,2-3	
SCL	IC7	1	2-10,2-11	
SCL	JP1	12	2-36	
SCL	RN15	2	2-2,2-3	
SCL	RN2	4	2-34,2-35	
SCL	TP49	P$1	2-2,2-3	
SD16	IC27	42	2-4,2-5	Datenleitung Speicher
SD16	RN28	4	2-4,2-5	
SD16	TP237	P$1	2-4,2-5	
SD17	IC27	44	2-4,2-5	Datenleitung Speicher
SD17	RN28	3	2-4,2-5	
SD17	TP231	P$1	2-4,2-5	
SD18	IC27	45	2-4,2-5	Datenleitung Speicher
SD18	RN28	2	2-4,2-5	
SD18	TP216	P$1	2-4,2-5	
SD19	IC27	47	2-4,2-5	Datenleitung Speicher
SD19	RN28	1	2-4,2-5	
SD19	TP215	P$1	2-4,2-5	
SD20	IC27	48	2-4,2-5	Datenleitung Speicher
SD20	RN29	4	2-4,2-5	
SD20	TP176	P$1	2-4,2-5	

Signal	Bauteil Part	Pin	Seite Page	Beschreibung Description
SD21	IC27	50	2-4,2-5	Datenleitung Speicher
SD21	RN29	3	2-4,2-5	
SD21	TP172	P$1	2-4,2-5	
SD22	IC27	51	2-4,2-5	Datenleitung Speicher
SD22	RN29	2	2-4,2-5	
SD22	TP171	P$1	2-4,2-5	
SD23	IC27	53	2-4,2-5	Datenleitung Speicher
SD23	RN29	1	2-4,2-5	
SD23	TP170	P$1	2-4,2-5	
SD24	IC27	2	2-4,2-5	Datenleitung Speicher
SD24	RN26	4	2-4,2-5	
SD24	TP169	P$1	2-4,2-5	
SD25	IC27	4	2-4,2-5	Datenleitung Speicher
SD25	RN26	3	2-4,2-5	
SD25	TP168	P$1	2-4,2-5	
SD26	IC27	5	2-4,2-5	Datenleitung Speicher
SD26	RN26	2	2-4,2-5	
SD26	TP167	P$1	2-4,2-5	
SD27	IC27	7	2-4,2-5	Datenleitung Speicher
SD27	RN26	1	2-4,2-5	
SD27	TP166	P$1	2-4,2-5	
SD28	IC27	8	2-4,2-5	Datenleitung Speicher
SD28	RN27	4	2-4,2-5	
SD28	TP160	P$1	2-4,2-5	
SD29	IC27	10	2-4,2-5	Datenleitung Speicher
SD29	RN27	3	2-4,2-5	
SD29	TP159	P$1	2-4,2-5	
SD30	IC27	11	2-4,2-5	Datenleitung Speicher
SD30	RN27	2	2-4,2-5	
SD30	TP158	P$1	2-4,2-5	
SD31	IC27	13	2-4,2-5	Datenleitung Speicher
SD31	RN27	1	2-4,2-5	
SD31	TP131	P$1	2-4,2-5	
SDA	IC10	9	2-26,2-27	Datenleitung I2C-Bus
SDA	IC24	18	2-30,2-31	
SDA	IC25	13	2-30,2-31	
SDA	IC31	3	2-10,2-11	
SDA	IC4	42	2-24,2-25	
SDA	IC5	103	2-2,2-3	
SDA	IC7	2	2-10,2-11	
SDA	JP1	10	2-36	
SDA	RN15	1	2-2,2-3	
SDA	RN2	3	2-34,2-35	
SDA	TP50	P$1	2-2,2-3	
SD_BCLK	IC27	38	2-4,2-5	Busclock
SD_BCLK	R132	2	2-6,2-7	
SD_BCLK	TP322	P$1	2-4,2-5	
SD_CLK	IC1	84	2-22,2-23	Clock Speicher Avia
SD_CLK	IC2	35	2-22,2-23	
SD_CLK	IC9	35	2-22,2-23	
SD_CLK	TP361	P$1	2-22,2-23	
SIZ0	IC16	76	2-12,2-13	Transfer Size Datenbus
SIZ0	IC17	120	2-32,2-33	
SIZ0	IC5	46	2-2,2-3	
SIZ0	TP353	P$1	2-12,2-13	
SIZ1	IC16	77	2-12,2-13	Transfer Size Datenbus
SIZ1	IC17	121	2-32,2-33	
SIZ1	IC5	47	2-2,2-3	
SIZ1	TP354	P$1	2-12,2-13	
SYS_UP	IC5	198	2-2,2-3	System aktiv
SYS_UP	IC7	13	2-10,2-11	
SYS_UP	JP13	8	2-10,2-11	
SYS_UP	R81	2	2-10,2-11	
T+	CON3	1	2-16,2-17	Transmit Daten Ethernet +
T+	L2	9	2-16,2-17	
T-	CON3	2	2-16,2-17	Transmit Daten Ethernet -
T-	L2	11	2-16,2-17	
TCK	IC16	59	2-12,2-13	Programmierung Lattice
TCK	IC17	2	2-32,2-33	CLK Boundary Scan Xilinx
TCK	JP5	8	2-12,2-13	
TCK	RN5	4	2-12,2-13	
TDI	IC16	16	2-12,2-13	Programmierung Lattice
TDI	JP5	3	2-12,2-13	
TDI	RN5	2	2-12,2-13	
TDI/DSI	IC5	153	2-8,2-9	Development Serial Input
TDI/DSI	JP2	8	2-8,2-9	Coldfire Debug Port
TDI/DSI	RN17	7	2-8,2-9	
TDO	IC17	34	2-32,2-33	Boundary Scan
TDO	JP5	2	2-12,2-13	Xilinx
TDO/DSO	IC5	151	2-8,2-9	Development Serial Output
TDO/DSO	JP2	10	2-8,2-9	Coldfire Debug Port
TDO_DVB1	IC16	87	2-12,2-13	Steuerleitung Programm.
TDO_DVB1	IC17	32	2-32,2-33	Xilinx
TDO_DVB1	TP345	P$1	2-12,2-13	
TMS	IC16	37	2-12,2-13	Programmierung Lattice
TMS	IC17	142	2-32,2-33	Boundary Scan Xilinx
TMS	JP5	6	2-12,2-13	
TMS	RN5	3	2-12,2-13	
TRST/DSC	IC5	149	2-8,2-9	Development Serial Clock
TRST/DSC	JP2	4	2-8,2-9	
TRST/DSC	RN17	8	2-8,2-9	
TTX	IC17	23	2-32,2-33	Teletext Bit Stream
TTX	IC4	44	2-24,2-25	
TTX	TP533	P$1	2-24,2-25	
TTXRQ	IC17	22	2-32,2-33	Teletext Request
TTXRQ	IC4	43	2-24,2-25	
TTXRQ	TP532	P$1	2-24,2-25	
TUNE_27M	C163	1	2-26,2-27	Regelung 27MHz
TUNE_27M	IC10	3	2-26,2-27	
TUNE_27M	R124	1	2-26,2-27	
TUNE_27M	R43	1	2-26,2-27	
TUNE_27M	TP535	P$1	2-26,2-27	
TUN_RES	IC40	2	2-6,2-7	Tuner Reset
TUN_RES	T3	2	2-30,2-31	
TUN_RES	TP536	P$1	2-30,2-31	
TXD+	C101	1	2-16,2-17	Transmit Data Ethernet
TXD+	L2	8	2-16,2-17	
TXD+	R5	1	2-16,2-17	
TXD+	TP540	P$1	2-16,2-17	
TXD-	C101	2	2-16,2-17	Transmit Data Ethernet
TXD-	L2	6	2-16,2-17	
TXD-	R6	1	2-16,2-17	
TXD-	TP539	P$1	2-16,2-17	
UDQM	IC1	80	2-22,2-23	Data I/O Mask
UDQM	IC2	36	2-22,2-23	Speicher Avia
UDQM	IC9	36	2-22,2-23	
UDQM	TP364	P$1	2-22,2-23	
VCC	C113	1	2-36	Versorgungsspannung
VCC	C137	2	2-30,2-31	
VCC	C169	1	2-20,2-21	
VCC	C172	2	2-30,2-31	
VCC	C184	1	2-30,2-31	
VCC	C65	2	2-20,2-21	
VCC	C84	1	2-30,2-31	
VCC	C91	2	2-8,2-9	
VCC	CON7	19	2-36	
VCC	CON7	20	2-36	
VCC	CON7	4	2-36	
VCC	CON7	6	2-36	
VCC	D20	1	2-30,2-31	
VCC	D26	2	2-36	
VCC	IC14	7	2-8,2-9	
VCC	IC14	8	2-8,2-9	
VCC	IC24	12	2-30,2-31	
VCC	IC24	14	2-30,2-31	
VCC	IC24	7	2-30,2-31	
VCC	IC25	5	2-30,2-31	
VCC	IC25	6	2-30,2-31	
VCC	IC44	3	2-20,2-21	

Signal	Bauteil Part	Pin	Seite Page	Beschreibung Description
VCC	JP1	7	2-36	
VCC	JP3	12	2-14,2-15	
VCC	JP3	14	2-14,2-15	
VCC	R111	2	2-26,2-27	
VCC	R56	2	2-4,2-5	
VCC	R74	2	2-36	
VCC	R98	2	2-36	
VCC	TP103	1	2-36	
VCC	TP104	1	2-36	
VDATA0	IC1	142	2-20,2-21	Video Daten
VDATA0	IC4	16	2-24,2-25	
VDATA0	TP362	P$1	2-20,2-21	
VDATA1	IC1	143	2-20,2-21	Video Daten
VDATA1	IC4	15	2-24,2-25	
VDATA1	TP363	P$1	2-20,2-21	
VDATA2	IC1	145	2-20,2-21	Video Daten
VDATA2	IC4	14	2-24,2-25	
VDATA2	TP529	P$1	2-20,2-21	
VDATA3	IC1	148	2-20,2-21	Video Daten
VDATA3	IC4	13	2-24,2-25	
VDATA3	TP530	P$1	2-20,2-21	
VDATA4	IC1	150	2-20,2-21	Video Daten
VDATA4	IC4	12	2-24,2-25	
VDATA4	TP143	P$1	2-24,2-25	
VDATA5	IC1	152	2-20,2-21	Video Daten
VDATA5	IC4	11	2-24,2-25	
VDATA5	TP144	P$1	2-24,2-25	
VDATA6	IC1	154	2-20,2-21	Video Daten
VDATA6	IC4	10	2-24,2-25	
VDATA6	TP145	P$1	2-24,2-25	
VDATA7	IC1	155	2-20,2-21	Video Daten
VDATA7	IC4	9	2-24,2-25	
VDATA7	TP146	P$1	2-24,2-25	
VDD	C10	2	2-22,2-23	Versorgungsspannung
VDD	C102	2	2-12,2-13	
VDD	C107	2	2-14,2-15	
VDD	C110	2	2-18,2-19	
VDD	C111	2	2-18,2-19	
VDD	C112	1	2-36	
VDD	C117	2	2-32,2-33	
VDD	C12	2	2-22,2-23	
VDD	C121	1	2-2,2-3	
VDD	C122	1	2-4,2-5	
VDD	C124	2	2-6,2-7	
VDD	C126	1	2-16,2-17	
VDD	C128	2	2-14,2-15	
VDD	C13	2	2-22,2-23	
VDD	C133	2	2-18,2-19	
VDD	C14	2	2-22,2-23	
VDD	C15	2	2-22,2-23	
VDD	C16	2	2-22,2-23	
VDD	C167	1	2-2,2-3	
VDD	C17	2	2-22,2-23	
VDD	C171	2	2-32,2-33	
VDD	C173	2	2-32,2-33	
VDD	C174	2	2-32,2-33	
VDD	C175	2	2-32,2-33	
VDD	C177	2	2-20,2-21	
VDD	C18	1	2-24,2-25	
VDD	C181	1	2-20,2-21	
VDD	C20	2	2-22,2-23	
VDD	C21	2	2-2,2-3	
VDD	C22	2	2-2,2-3	
VDD	C23	2	2-2,2-3	
VDD	C24	2	2-2,2-3	
VDD	C25	2	2-2,2-3	
VDD	C26	2	2-2,2-3	
VDD	C27	2	2-2,2-3	
VDD	C28	2	2-2,2-3	
VDD	C29	2	2-2,2-3	
VDD	C30	2	2-24,2-25	
VDD	C31	2	2-24,2-25	
VDD	C32	2	2-24,2-25	
VDD	C38	2	2-12,2-13	
VDD	C54	2	2-2,2-3	
VDD	C55	2	2-16,2-17	
VDD	C57	2	2-16,2-17	
VDD	C58	2	2-18,2-19	

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VDD	C6	1	2-22,2-23	
VDD	C61	2	2-16,2-17	
VDD	C62	2	2-20,2-21	
VDD	C66	2	2-18,2-19	
VDD	C67	2	2-20,2-21	
VDD	C68	2	2-20,2-21	
VDD	C69	2	2-20,2-21	
VDD	C70	2	2-20,2-21	
VDD	C71	2	2-20,2-21	
VDD	C72	2	2-20,2-21	
VDD	C73	2	2-20,2-21	
VDD	C74	2	2-20,2-21	
VDD	C75	2	2-20,2-21	
VDD	C76	2	2-20,2-21	
VDD	C77	2	2-2,2-3	
VDD	C80	2	2-6,2-7	
VDD	C81	2	2-6,2-7	
VDD	C82	2	2-6,2-7	
VDD	C83	2	2-6,2-7	
VDD	C85	2	2-18,2-19	
VDD	C89	2	2-8,2-9	
VDD	C9	2	2-22,2-23	
VDD	C92	1	2-4,2-5	
VDD	C93	2	2-4,2-5	
VDD	C94	2	2-4,2-5	
VDD	C95	2	2-4,2-5	
VDD	C96	2	2-4,2-5	
VDD	C97	2	2-4,2-5	
VDD	C98	2	2-4,2-5	
VDD	CON7	1	2-36	
VDD	CON7	11	2-36	
VDD	CON7	2	2-36	
VDD	D1	1	2-20,2-21	
VDD	D26	1	2-36	
VDD	D27	2	2-20,2-21	
VDD	IC1	101	2-20,2-21	
VDD	IC1	107	2-20,2-21	
VDD	IC1	113	2-20,2-21	
VDD	IC1	123	2-20,2-21	
VDD	IC1	134	2-20,2-21	
VDD	IC1	149	2-20,2-21	
VDD	IC1	160	2-20,2-21	
VDD	IC1	17	2-20,2-21	
VDD	IC1	181	2-20,2-21	
VDD	IC1	193	2-20,2-21	
VDD	IC1	27	2-20,2-21	
VDD	IC1	36	2-20,2-21	
VDD	IC1	47	2-20,2-21	
VDD	IC1	5	2-20,2-21	
VDD	IC1	55	2-20,2-21	
VDD	IC1	61	2-20,2-21	
VDD	IC1	69	2-20,2-21	
VDD	IC1	75	2-20,2-21	
VDD	IC1	81	2-20,2-21	
VDD	IC1	87	2-20,2-21	
VDD	IC1	95	2-20,2-21	
VDD	IC13	7	2-8,2-9	
VDD	IC13	8	2-8,2-9	
VDD	IC15	20	2-32,2-33	
VDD	IC16	12	2-12,2-13	
VDD	IC16	36	2-12,2-13	
VDD	IC16	63	2-12,2-13	
VDD	IC16	89	2-12,2-13	
VDD	IC17	1	2-32,2-33	
VDD	IC17	107	2-32,2-33	
VDD	IC17	108	2-32,2-33	
VDD	IC17	127	2-32,2-33	
VDD	IC17	144	2-32,2-33	
VDD	IC17	16	2-32,2-33	
VDD	IC17	35	2-32,2-33	
VDD	IC17	36	2-32,2-33	
VDD	IC17	53	2-32,2-33	
VDD	IC17	70	2-32,2-33	
VDD	IC17	71	2-32,2-33	
VDD	IC17	90	2-32,2-33	
VDD	IC18	16	2-14,2-15	
VDD	IC2	1	2-22,2-23	
VDD	IC2	13	2-22,2-23	
VDD	IC2	25	2-22,2-23	
VDD	IC2	38	2-22,2-23	
VDD	IC2	44	2-22,2-23	
VDD	IC2	7	2-22,2-23	
VDD	IC20	18	2-6,2-7	
VDD	IC20	31	2-6,2-7	
VDD	IC20	42	2-6,2-7	
VDD	IC20	7	2-6,2-7	
VDD	IC22	18	2-18,2-19	

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VDD	IC22	31	2-18,2-19	
VDD	IC22	42	2-18,2-19	
VDD	IC22	7	2-18,2-19	
VDD	IC24	24	2-30,2-31	
VDD	IC25	10	2-30,2-31	
VDD	IC25	14	2-30,2-31	
VDD	IC27	1	2-4,2-5	
VDD	IC27	14	2-4,2-5	
VDD	IC27	27	2-4,2-5	
VDD	IC27	3	2-4,2-5	
VDD	IC27	43	2-4,2-5	
VDD	IC27	49	2-4,2-5	
VDD	IC27	9	2-4,2-5	
VDD	IC28	16	2-14,2-15	
VDD	IC3	2	2-20,2-21	
VDD	IC4	17	2-24,2-25	
VDD	IC4	39	2-24,2-25	
VDD	IC4	6	2-24,2-25	
VDD	IC40	20	2-6,2-7	
VDD	IC41	18	2-18,2-19	
VDD	IC41	31	2-18,2-19	
VDD	IC41	42	2-18,2-19	
VDD	IC41	7	2-18,2-19	
VDD	IC5	1	2-2,2-3	
VDD	IC5	105	2-2,2-3	
VDD	IC5	113	2-2,2-3	
VDD	IC5	121	2-2,2-3	
VDD	IC5	129	2-2,2-3	
VDD	IC5	13	2-2,2-3	
VDD	IC5	137	2-2,2-3	
VDD	IC5	145	2-2,2-3	
VDD	IC5	152	2-2,2-3	
VDD	IC5	157	2-2,2-3	
VDD	IC5	167	2-2,2-3	
VDD	IC5	171	2-2,2-3	
VDD	IC5	175	2-2,2-3	
VDD	IC5	185	2-2,2-3	
VDD	IC5	191	2-2,2-3	
VDD	IC5	197	2-2,2-3	
VDD	IC5	205	2-2,2-3	
VDD	IC5	21	2-2,2-3	
VDD	IC5	29	2-2,2-3	
VDD	IC5	37	2-2,2-3	
VDD	IC5	45	2-2,2-3	
VDD	IC5	52	2-2,2-3	
VDD	IC5	57	2-2,2-3	
VDD	IC5	65	2-2,2-3	
VDD	IC5	7	2-2,2-3	
VDD	IC5	73	2-2,2-3	
VDD	IC5	81	2-2,2-3	
VDD	IC5	89	2-2,2-3	
VDD	IC5	97	2-2,2-3	
VDD	IC8	22	2-16,2-17	
VDD	IC8	56	2-16,2-17	
VDD	IC8	69	2-16,2-17	
VDD	IC8	9	2-16,2-17	
VDD	IC9	1	2-22,2-23	
VDD	IC9	13	2-22,2-23	
VDD	IC9	25	2-22,2-23	
VDD	IC9	38	2-22,2-23	
VDD	IC9	44	2-22,2-23	
VDD	IC9	7	2-22,2-23	
VDD	JP1	5	2-36	
VDD	JP2	25	2-8,2-9	
VDD	JP3	10	2-14,2-15	
VDD	JP5	1	2-12,2-13	
VDD	L1	2	2-16,2-17	
VDD	L25	1	2-6,2-7	
VDD	L5	1	2-20,2-21	
VDD	L8	2	2-24,2-25	
VDD	L9	1	2-2,2-3	
VDD	Q6	4	2-2,2-3	
VDD	R1	1	2-16,2-17	
VDD	R10	2	2-8,2-9	
VDD	R100	1	2-22,2-23	
VDD	R107	1	2-32,2-33	
VDD	R108	2	2-32,2-33	
VDD	R109	2	2-32,2-33	
VDD	R118	1	2-16,2-17	
VDD	R119	1	2-16,2-17	
VDD	R122	2	2-26,2-27	
VDD	R13	2	2-32,2-33	
VDD	R137	2	2-4,2-5	
VDD	R14	1	2-4,2-5	
VDD	R140	2	2-30,2-31	
VDD	R16	2	2-20,2-21	
VDD	R17	1	2-20,2-21	

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VDD	R2	1	2-16,2-17	
VDD	R24	2	2-18,2-19	
VDD	R36	2	2-32,2-33	
VDD	R37	1	2-16,2-17	
VDD	R38	2	2-20,2-21	
VDD	R4	2	2-8,2-9	
VDD	R41	1	2-16,2-17	
VDD	R42	1	2-16,2-17	
VDD	R44	1	2-2,2-3	
VDD	R45	1	2-2,2-3	
VDD	R46	1	2-20,2-21	
VDD	R52	1	2-16,2-17	
VDD	R53	1	2-20,2-21	
VDD	R54	1	2-20,2-21	
VDD	R59	1	2-20,2-21	
VDD	R60	1	2-20,2-21	
VDD	R62	2	2-20,2-21	
VDD	R64	2	2-20,2-21	
VDD	R65	2	2-30,2-31	
VDD	R70	2	2-20,2-21	
VDD	R72	2	2-32,2-33	
VDD	R75	1	2-22,2-23	
VDD	R77	1	2-10,2-11	
VDD	R78	2	2-12,2-13	
VDD	R95	1	2-30,2-31	
VDD	RN1	5	2-18,2-19	
VDD	RN1	6	2-18,2-19	
VDD	RN1	7	2-18,2-19	
VDD	RN1	8	2-18,2-19	
VDD	RN11	1	2-2,2-3	
VDD	RN11	2	2-2,2-3	
VDD	RN11	3	2-2,2-3	
VDD	RN11	4	2-2,2-3	
VDD	RN12	1	2-2,2-3	
VDD	RN12	2	2-2,2-3	
VDD	RN12	3	2-2,2-3	
VDD	RN12	4	2-2,2-3	
VDD	RN13	1	2-6,2-7	
VDD	RN13	3	2-6,2-7	
VDD	RN14	1	2-6,2-7	
VDD	RN14	3	2-6,2-7	
VDD	RN15	5	2-2,2-3	
VDD	RN15	6	2-2,2-3	
VDD	RN15	7	2-2,2-3	
VDD	RN15	8	2-2,2-3	
VDD	RN16	5	2-2,2-3	
VDD	RN16	6	2-2,2-3	
VDD	RN17	1	2-8,2-9	
VDD	RN17	2	2-8,2-9	
VDD	RN17	3	2-8,2-9	
VDD	RN17	4	2-2,2-3	
VDD	RN2	2	2-34,2-35	
VDD	RN30	1	2-20,2-21	
VDD	RN30	4	2-20,2-21	
VDD	RN5	5	2-12,2-13	
VDD	RN5	6	2-12,2-13	
VDD	RN5	7	2-12,2-13	
VDD	RN5	8	2-12,2-13	
VDD	RN6	5	2-2,2-3	
VDD	RN6	6	2-2,2-3	
VDD	RN6	7	2-2,2-3	
VDD	RN6	8	2-2,2-3	
VDD	RN9	1	2-2,2-3	
VDD	RN9	2	2-2,2-3	
VDD	RN9	3	2-2,2-3	
VDD	RN9	4	2-2,2-3	
VDD25	C129	2	2-20,2-21	Versorgungsspannung
VDD25	C130	1	2-32,2-33	Avia
VDD25	C156	2	2-32,2-33	
VDD25	C159	2	2-20,2-21	
VDD25	C170	2	2-32,2-33	
VDD25	C182	2	2-20,2-21	
VDD25	C183	2	2-20,2-21	
VDD25	C7	1	2-20,2-21	
VDD25	C8	2	2-20,2-21	
VDD25	D1	2	2-20,2-21	
VDD25	D27	1	2-20,2-21	
VDD25	IC1	117	2-20,2-21	
VDD25	IC1	12	2-20,2-21	
VDD25	IC1	144	2-20,2-21	
VDD25	IC1	168	2-20,2-21	
VDD25	IC1	197	2-20,2-21	
VDD25	IC1	40	2-20,2-21	
VDD25	IC1	65	2-20,2-21	
VDD25	IC1	91	2-20,2-21	
VDD25	IC17	125	2-32,2-33	

Signal	Bauteil Part	Pin	Seite Page	Beschreibung Description
VDD25	IC17	14	2-32,2-33	
VDD25	IC17	24	2-32,2-33	
VDD25	IC17	55	2-32,2-33	
VDD25	IC17	82	2-32,2-33	
VDD25	IC17	9	2-32,2-33	
VDD25	IC17	92	2-32,2-33	
VDD25	IC17	97	2-32,2-33	
VDD25	IC3	3	2-20,2-21	
VDD25	IC44	2	2-20,2-21	
VDD25	R103	2	2-20,2-21	
V_SWITCH	C1	2	2-30,2-31	Vorspannung Tuner 14/18V
V_SWITCH	C155	1	2-34,2-35	
V_SWITCH	C186	2	2-34,2-35	
V_SWITCH	C227	1	2-34,2-35	
V_SWITCH	C254	1	2-34,2-35	
V_SWITCH	D5	2	2-34,2-35	
V_SWITCH	IC11	IN	2-30,2-31	
V_SWITCH	R131	1	2-34,2-35	
V_SWITCH	R80	1	2-34,2-35	
V_VCC	C120	1	2-24,2-25	Versorgungsspannung
V_VCC	C19	2	2-28,2-29	Video
V_VCC	C41	2	2-24,2-25	
V_VCC	C42	2	2-24,2-25	
V_VCC	C43	2	2-24,2-25	
V_VCC	C44	2	2-24,2-25	
V_VCC	IC4	25	2-24,2-25	
V_VCC	IC4	28	2-24,2-25	
V_VCC	IC4	31	2-24,2-25	
V_VCC	IC4	36	2-24,2-25	
V_VCC	IC43	8	2-28,2-29	
V_VCC	L8	1	2-24,2-25	
V_VCC	TP534	P$1	2-24,2-25	
WRST	IC14	6	2-8,2-9	Reset
WRST	TP279	P$1	2-8,2-9	
XTUN	IC40	9	2-6,2-7	Regelung 27MHz
XTUN	R135	1	2-26,2-27	
XTUN	TP538	P$1	2-6,2-7	
X_BCLK	IC17	88	2-32,2-33	Busclock
X_BCLK	R133	2	2-6,2-7	
X_BCLK	TP537	P$1	2-32,2-33	
Y	L17	1	2-28,2-29	Farbsignal SVideo
Y	L3	2	2-24,2-25	
Y	R82	2	2-24,2-25	
Y	TP163	P$1	2-28,2-29	
ZERO	D21	1	2-26,2-27	Tonabschaltung
ZERO	IC10	16	2-26,2-27	
ZERO	R110	1	2-26,2-27	
ZERO	T9	2	2-26,2-27	
ZERO	TP266	P$1	2-26,2-27	

GRUNDIG

SAT

Ersatzteilliste
Spare Parts List

10 / 2000

PDR 5000 S DIG

MATERIAL-NR. / PART NO.: 774009715100
BESTELL-NR. / ORDER NO.: GAG3142

POS. NR. POS. NO.	ABB. FIG.	MATERIAL-NR. PART NUMBER	ANZ. QTY.	BEZEICHNUNG (D)	DESCRIPTION (GB)
		774009715100		PDR 5000 S DIG KEIN E-TEIL	PDR 5000 S DIG NO SPARE PART
0001.000		759880570100		GEH.-BODEN	BOTTOM
0002.000		759880570200		GEH.-OBERTEIL	COVER
0003.000		759880570700		KABEL STVB 2XBU 90GD IDE	CABLE STVB 2XBU 90GD IDE
0004.000		720117131600		FERNBEDIENUNG TP 777	REMOTE CONTROL TP 777
0005.000		759880570800		FRONTPLATTE KPL. SILBER	FRONTPANEEL CPL. SILVER
0006.000		759880570900		FUSS SCHWARZ	FOOT BLACK
0007.000	⚠	759880571000		NETZKABEL	POWER CABLE
0010.000	⚠	759880570300		LP-MEDIA-TV	MEDIA-TV BOARD
0011.000	⚠	759880570400		LP-BEDIENTEIL	CONTROLBOARD
0012.000	⚠	759880570500		LP-NETZTEILMODUL ATX	POWER SUPPLY BOARD ATX
0013.000	⚠	759880570600		FESTPLATTE	HARDDISC
0020.000		720116002001		BEDIENUNGSANLEITUNG D/GB	INSTRUCTION MANUAL D/GB

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Mat.-Nummer 720108000000, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!

⚠ (!)

The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 720108000000, as well as the respective national deviations.

ÄNDERUNGEN VORBEHALTEN / SUBJECT TO ALTERATION